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Oakland Public Schools

A School System for All of the Children
of All the People



Reprint of the Report
of the

Department of Research

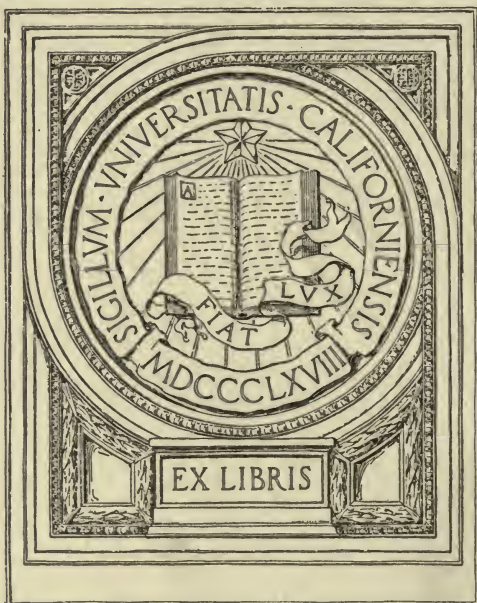
VIRGIL E. DICKSON, *Director*

Being Part of a Report
of the
Superintendent of Schools
of Oakland, California

1917-1918

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REPORT OF THE Department of Research



VIRGIL E. DICKSON
DIRECTOR

Oakland, Cal. Board of education.



REPRINTED FROM THE
SUPERINTENDENT'S ANNUAL REPORT
OAKLAND PUBLIC SCHOOLS
OAKLAND, CALIFORNIA
1917-1918

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FOREWORD

Theoretically, the principle of measurement has already become well established in the minds of school administrators and executives. It yet remains for it to be practically applied as a part of the scheme of administration in anything like a universal sense. The Oakland Public Schools have subscribed to the principle as being one of the outstanding characteristics of an efficient school system. Belief in the principle extends not only to members of the executive, administrative, and supervisory corps, but to practically all members of the teaching body as well.

To apply the principle practically as one of the fundamentals of an efficient school system as indicated in the standards suggested on page 19 of this report, it is necessary that the spirit of measuring and weighing results be constantly and actively present in the minds of all the workers in the schools. When this becomes a fact, we shall have the principle applied to:

- a. Classroom results in the so-called academic subjects.
- b. To the final product of the schools as that product enters the workaday world through the placement machinery of the schools and through the gradually closer co-operation between the schools and industry.
- c. To the children themselves in the application of classroom methods and the content of the course of study.
- d. The costs of the schools in all units of organization and in all classes of service.
- e. The completeness with which the schools as an institution cover their field of work.

The report of the Director of Research which follows herewith is the best evidence of the way in which this principle is becoming a part of the working program in the Oakland School System.

Fred W. Hunter.
Superintendent.

REPORT OF THE DEPARTMENT OF RESEARCH

VIRGIL E. DICKSON, Director

The Interest in Research Work Aroused Among Teachers and Principals.

During the year it has been the constant purpose of the Department of Research to assist principals and teachers in discovering and attacking some of the common problems of the classrooms, and an endeavor has been made to arouse interest in "internal survey" work.

"What do we have to work with compared with what other teachers have?"

"What are we doing compared with what others are doing?"

An honest attempt to answer such questions is of great assistance to both teachers and pupils.

The Director of Research has given thirty-two addresses to gatherings of teachers and principals in different schools on the subjects "Standard tests in classroom work," and "Psychological tests." He has also given two courses of lectures of ten hours each on psychological testing of school children. One class was attended by twenty-five first grade teachers. The other class was attended by forty-five principals and supervisory officers.

The adjustment of the school curriculum to needs of pupils, the promotion and progress machinery, the causes of slow progress, the segregation of pupils into groups according to ability—all these are problems that must be attacked from the administrative angle. Teachers may see needs for readjustment and be anxious to make the necessary changes but they are very helpless unless they have the co-operation of the administrative forces. Hence the class for principals was organized that we might, all working together, study these problems.

The class for first grade teachers was organized because we need to study individual differences and to make adjustments to the child's needs as early as possible in his school career. A discussion of the serious need for readjustment of conditions as found in the first grade is made in another part of this report.

Great interest has been shown by both teachers and principals with the result that the Research Department has been flooded with calls for help which it could not find time to give.

RESEARCH WORK IN THE ELMHURST, LAUREL, SANTA FE AND PRESCOTT SCHOOLS

The four schools, Elmhurst, Laurel, Santa Fe, and Prescott, were selected for experimental study for two reasons: (1) Because of the variety of classroom and administrative problems involved in these buildings, (2) Because the principals and teachers in these schools were anxious to co-operate in research studies.

The subject of arithmetic was selected for the first study because the tests in arithmetic are easier for principals and teachers to understand, and because arithmetic tests have been given in many schools over the country which makes comparison of standards of accomplishment in different schools very easy.

ARITHMETIC

The Courtis arithmetic tests—Series B—were given in the four schools mentioned above in the month of October, 1917. Table No. 1 shows the results of these tests compared with the standards that have been set in the other places mentioned. It will be noted that the Kansas medians as a whole are lower than the General medians and the Boston medians are usually higher than the General medians. In Grade Four, the Oakland schools are high in speed and about average in accuracy in addition; slightly below average in both speed and accuracy in subtraction; slightly below average in speed, and average in accuracy in multiplication; while long division is not given in the Oakland schools in the fourth grade. The tests in long division were not given in the fourth grade.

The Oakland medians would indicate that these schools have a very satisfactory standard for fourth grade work in addition, subtraction and multiplication, unless we raise the question of whether there is not too much speed in addition. For example, note the Elmhurst 4B and the Laurel 4B grades. Question. "Do these grades devote too much time to drill in addition, subtraction and multiplication?"

In grade five, Oakland again stands high in speed in addition. All other processes are average except division which is low in both speed and accuracy. One 5A grade in the Elmhurst school stands very low in everything while another 5A grade in the same school stands high in everything, possibly too high. The principal and teachers should be able to justify these differences or should make some change in their work.

The very high showing of both the 5A and 5B grades in the Prescott school in addition and subtraction would raise a serious question as to over-stress or over-drill in these two processes. Standard tests should enable us to determine whether too much or too little attention is being given to a subject, taking for granted that the teacher has average ability in teaching that subject. Any class is open to question when it stands very far either above or below the median for that grade.

The fact that long division is not given in the fourth grade may explain why the score is low in division in the fifth grade, however, the fact remains that these Oakland fifth grades are below the standard obtained in many other schools in division. The question for further study is "What should the standard be?"

The median for the class is valuable to the teacher or to the principal because it reveals the general quality of the work of the class. It is the fulcrum upon which the class is balanced—half its number being on one side, half on the other. For actual help in teaching, however, the individual record of each pupil has the greatest value. Let us say that the standards set are reasonable. Then they should be attainable by at least half of the children in a normal class and no pupil should fall below the standard unless there is a satisfactory explanation.

The graph on page 178 shows the test results for two eighth grade pupils in the Elmhurst school in the same class. The red line is the Boston standard. Pupil X is well above the standard in every process in both speed and accuracy, while pupil Y is far below the standard in everything. Pupil Y attempts 5 problems in addition and doesn't get one right. In the same period of time pupil X tries 14 problems and gets all right.

In subtraction, pupil Y attempts 7 problems and gets 5 right; in multiplication he attempts 8 and gets 7 right; in division he attempts 4 and gets 2 right. The graph shows the teacher exactly where she should put teaching emphasis with reference to these four processes and these two pupils. Both of these pupils will graduate (did graduate) from the 8th grade at the end of the year. Is graduation from the 8th grade any index of the ability of these two pupils to satisfy an employer, say in clerical work involving figures? Whenever drill work involving these four processes is given should the teacher require both these pupils to sit through the same recitation or do the same problems? A mental test would probably reveal whether pupil Y's low record is due to poor teaching or to poor mentality, or to some trouble at the time of the test. The teacher knows that these pupils differ *greatly* in ability but to know just how much difference there is and to know where the weak or strong spots are should help her in both the teaching and in the management of these pupils. Similar information concerning all her pupils should increase her teaching efficiency. Every pupil should be taught to make his own graphs and watch his own progress and these graphs should serve as a guide in directing the teacher's efforts. Every teacher should be taught to use the individual graph to help her to diagnose the individual differences in her class. It is the plan of this department to give such assistance that many teachers in Oakland may be taught next year to use graphs and standard measurements in their classroom work. The inquiring attitude which is aroused toward individual problems should stimulate to better teaching.

COURTIS ARITHMETIC TEST

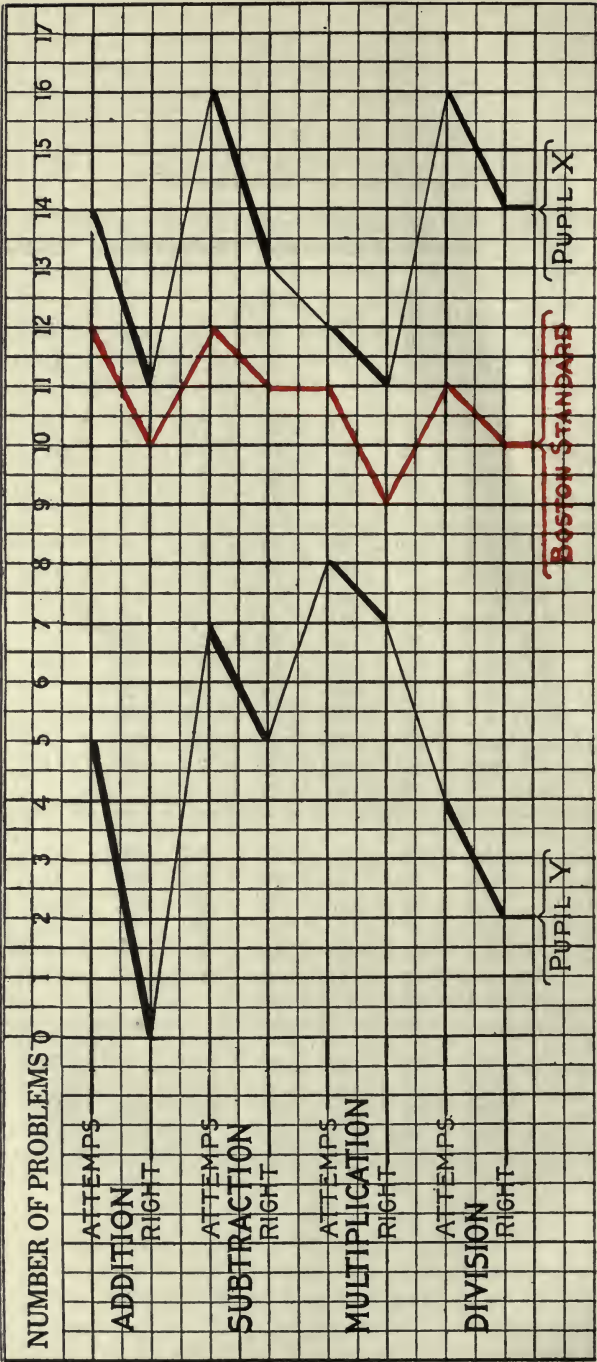
Table No. 1

	Addition		Subtraction		Multiplication		Division		
	Speed	Accuracy	Speed	Accuracy	Speed	Accuracy	Speed	Accuracy	No. of Pupils
GRADE IV									
Kansas Medians.....	4.8	41	5.3	46	4.4	41	3.3	39	
General Medians.....	7.4	64	7.4	80	6.2	67	4.6	57	
Boston Medians.....	8	70	7	80	6	60	4	60	
OAKLAND Medians..	9.8	68	6.8	69	5.	63			
Elmhurst .....4A	10	56	7	64					38
Elmhurst .....4B	10.2	60	7.2	65	4.7	60			11
Elmhurst .....4B	10.2	77	7.2	73	6.0	63			33
Laurel .....4A	8.3	75	6.4	70	1.6	28			13
Laurel .....4B	11.	73	7	70	6.8	86			11
Santa Fe.....4A	10.4	68	6.7	68					37
Santa Fe.....4B	8.5	70	6.2	70	5.9	77			34
GRADE V									
Kansas Medians.....	5.9	52	6.8	63	5.7	57	4.0	52	
General Medians.....	8.6	70	9.0	83	7.5	75	6.1	77	
Boston Medians.....	9.0	70	9.0	80	7.0	70	6.0	70	
OAKLAND Medians..	9.2	62	8.5	76	6.4	67	4.1	45	
Elmhurst .....5A	8.5	57	6.7	53	5	44	3.2	37	19
Elmhurst .....5A	10.5	70	10.2	83	7.1	70	5	72	39
Laurel .....5A	10	55	8.3	80	8.6	75	5	41	10
Laurel .....5B	7	56	7	73	6.2	80	4	32	8
Santa Fe.....5A	8.1	60	7.7	78	6.6	72	5.1	50	34
Santa Fe.....5A	7.7	67	6.7	81	5.5	65			31
Prescott .....5A	11.1	60	9.8	75					23
Prescott .....5B	11.2	64	13.6	87					34

Table No. 1—Continued.

	Addition		Subtraction		Multiplication		Division		
	Speed	Accuracy	Speed	Accuracy	Speed	Accuracy	Speed	Accuracy	No. of Pupils
GRADE VI									
Kansas Medians.....	7.0	59	7.9	72	7.2	69	5.3	71	
General Medians	9.8	73	10.3	85	9.1	78	8.2	87	
Boston Medians.....	10.0	70	10.0	90	9.0	80	8.0	80	
OAKLAND Medians..	9.2	67	9.4	83	7.7	76	6.5	73	
Elmhurst .....6A	8.3	69	9.8	90	8.1	80	5.1	70	30
Elmhurst .....6B	9.1	67	10.2	78	8.4	78	6.8	82	38
Elmhurst .....6B	10.0	58	12.3	87.5	7.5	87	9.0	80	35
Laurel .....6A	8.0	83	8.0	90	7.5	83	5.0	50	7
Laurel .....6B	8.0	57	9.0	85	8.6	80	5.7	73	12
Santa Fe.....6A	9.4	71	8.5	85	7.7	73	5.9	72	36
Santa Fe (Feb.)....6A	8.9	75	8.8	74	8.8	51			34
Santa Fe .....6B	8.5	76	8.6	83	7.8	85	7.5	80	28
Santa Fe (Feb.)...6B	11.6	68	9.6	88	7.5	74	6.7	85	32
Elmhurst .....6B	10.1	66	10.2	78	8.4	78	6.8	82	38
Prescott .....6A	7.0	50	6.7	72					28
GRADE VII									
Kansas Medians.....	7.8	63	9.2	77	8.5	74	7.9	81	
General Median.....	10.9	75	11.6	86	10.2	80	9.6	90	
Boston Median.....	11.0	80	11.0	90	10.0	80	10.0	90	
OAKLAND Medians..	10.2	57	11.7	85	9.8	75	7.3	82	
Elmhurst .....7A	11.0	39	10.3	83	8.3	72	6.3	83	25
Elmhurst .....7B	9.5	72	12.3	89	9.3	79	8.3	82	30
Prescott .....7B	11.3	62	12.5	85					28
GRADE VIII									
Kansas Medians.....	8.7	65	10.5	80	10.9	77	8.6	86	
General Median.....	11.6	76	12.9	87	11.5	81	10.7	91	
Boston Median.....	12.0	80	12.0	90	11.0	80	11.0	90	
OAKLAND .....8A	10.6	78.8	12.2	97	9.2	83	9.0	81	32

Table Showing the Record of Two Eighth Grade Pupils—Courtis Arithmetic Test



The graph shows the test results for two eighth grade pupils in the Elmhurst school in the same class. The red line is the Boston standard. Pupil X is well above the standard in every process in both speed and accuracy, while pupil Y is far below the standard in everything. (For discussion see page 175.)

Handwriting.

During the month of November a test was given in handwriting to 706 pupils in grades five, six, seven and eight in the Elmhurst, Laurel, Prescott, and Sante Fe schools. The following table shows the Oakland medians gained from this test compared with the medians found in other schools.

	Median speed in letters per minute. GRADE				Median quality by Thorndike scale. GRADE			
	V	VI	VII	VIII	V	VI	VII	VIII
*Oakland 706 pupils.....	63	71	80	84	9.1	9.9	10.3	10.6
Cleveland 10528 pupils	60	70	76	80	9.6	9.9	10.1	10.7
Iowa 28000 pupils.....	65	73	75	77	10.0	10.4	11.9	11.4
**Oakland 4815 pupils..	62	75	76	76	9.7	10.6	12.0	13.0

* These medians were obtained from a test given in November by the Director of Research,—all tests given and scored by the same person.

** These medians were obtained from a test given near the end of the school year under the direction of the Supervisor of Penmanship. The tests were given and scored by the teachers of the respective grades.

The November tests would indicate that the handwriting of the Oakland school children is about equal to the average in speed but not quite as good as the average for other cities in quality.

The tests near the end of the year show that grades five and six are average in both speed and quality, while grades seven and eight are slightly below in speed and average or above in quality.

Handwriting tests are very easily and quickly given. Another test should be given to all the schools in the city soon after the opening of the next school year.

Acceleration and Retardation.

The following table reveals some very interesting facts concerning the progress-machinery of our schools. *If* the children attending the fourth grade of the Oakland Public Schools represent a normal group (It seems to me they should), there should be exactly the same percentage of acceleration as of retardation, *provided* we had perfect attendance, perfect health, etc., *and* a course of study adapted to the median capacity of a group of normal fourth grade children.

Our course of study is supposed to fit these provisions but we know that there are numerous causes, such as, irregular attendance, poor

health, moving about, etc., which tend to prevent many children from making normal progress. The question for serious study is, "Are the causes making for retardation *sufficient* to explain the differences between the percentages of acceleration and the percentages of retardation?"

TABLE SHOWING ACCELERATION AND RETARDATION AS FOUND
IN GRADES 4, 6, and 8, OAKLAND ELEMENTARY SCHOOLS
SEPTEMBER 15, 1917

(This table deals purely with *progress* not *age*.)

	$\frac{1}{2}$ year or more		1 year or more		$1\frac{1}{2}$ years or more		2 years or more	
	Accelera- tion	Retarda- tion	Acc.	Ret.	Acc.	Ret.	Acc.	Ret.
	%	%	%	%	%	%	%	%
Grade 4	15.9	45.8	3.9	23.8	0.9	11.8	0.3	6.8
Ratio	1	to 3	1	to 6	1	to 13	1	to 20
Grade 6	22.2	46.8	7.2	27.8	2.2	14.8	0.3	5.8
Ratio	1	to 2	1	to 4	1	to 6	1	to 19
Grade 8.....	30.1	28.7	9.1	13.7	6.1	5.7	2.1	1.7
Ratio	1.07	to 1	1	to 1.5	1.07	to 1	1.2	to 1

These figures involve all the children in these respective grades (special classes not included).

Grade 4 3268 pupils

Grade 6 2709 pupils

Grade 8 1985 pupils

The table above reveals the alarming fact that almost one-half of our school children drop behind at least $\frac{1}{2}$ year before they have finished the fourth grade, while about $\frac{1}{6}$ of the children have gained $\frac{1}{2}$ year in progress by the time they finish the fourth grade. Three children have been retarded $\frac{1}{2}$ year to one who has been accelerated $\frac{1}{2}$ year. $\frac{1}{4}$ of all the 4th grade children have been retarded 1 year or more, while $\frac{1}{25}$ have been accelerated 1 year or more. In other words six children have been retarded 1 year to one who has been accelerated 1 year; thirteen have been retarded $1\frac{1}{2}$ years to one who has been accelerated $1\frac{1}{2}$ years, twenty have been retarded 2 years to one who has been accelerated 2 years.

From the fourth grade to the sixth grade (see table) the percentages of acceleration increase rather normally—15% to 22%—but the percentages of retardation have a very slight increase—45% to 46%—although the data gathered this year show that there is an average failure of about 5% in the fourth grade and 5% in the fifth grade. The enrollment in the 4th grade is 3268, in the 6th grade 2709—a difference of

559. I see only one explanation. *Many* of those who were failures in the fourth grade have dropped out of school before reaching the sixth grade.

From sixth grade to eighth grade the percentages of acceleration increase greatly, while percentages of retardation show a marked decrease in spite of the fact that the sixth grade produces an average of about 5% failure and the seventh grade about 6% failure. Again the only explanation which I see is that between the sixth and the eighth grades there is an immense exodus of children most of whom are from the retarded group, while almost none from the accelerated group drop out. This leaves our eighth grade pupils very much a "select" group.

In my opinion these figures furnish evidence to convict the schools of two things:

- (1) The ability to discover weakness in the child and hold him back.
- (2) The inability to discover strength in the child and move him ahead.

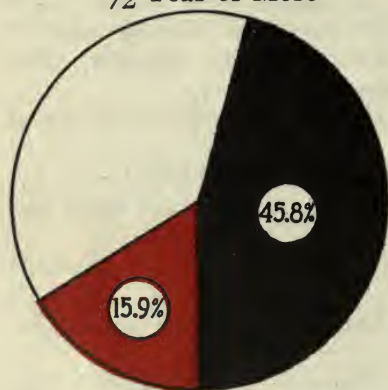
What happens to those who have left school with less than an eighth grade education?

Has the education which they have been given been the best one for them?

Why did these people leave school? These are questions which should demand the most earnest attention of the community.

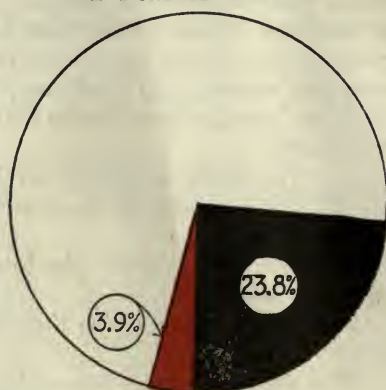
The following figures show in graphic form the same facts presented in the table above.

Per Cent of Acceleration and Retardation Found in the
FOURTH GRADE of the Oakland Schools
 September 15, 1917
 Grade 4

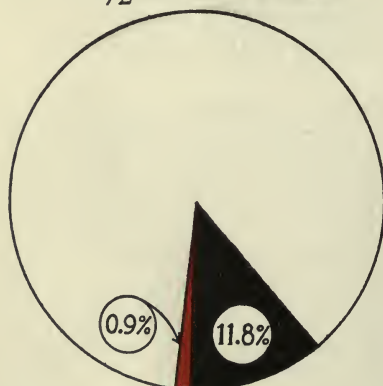
 $\frac{1}{2}$ Year or More

Ratio 1 to 3

1 Year or More

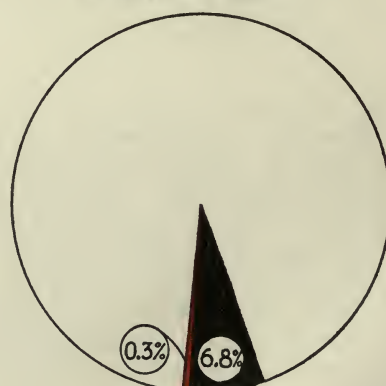


Ratio 1 to 6

 $1\frac{1}{2}$ Years or More

Ratio 1 to 13

2 Years or More



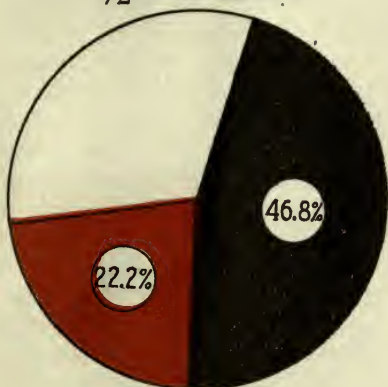
Ratio 1 to 20

BLACK—RETARDATION**RED—ACCELERATION**

Note how the large percentage of retardation in the fourth grade dwindles to a much smaller percentage in the eighth grade. The children who fail are the ones most likely to leave school. (See discussion on page 180.)

Per Cent of Acceleration and Retardation Found in the
SIXTH GRADE of the Oakland Schools
September 15, 1917
Grade 6

$\frac{1}{2}$ Year or More



Ratio 1 to 2

1 Year or More



Ratio 1 to 4

$1\frac{1}{2}$ Years or More



Ratio 1 to 6

2 Years or More

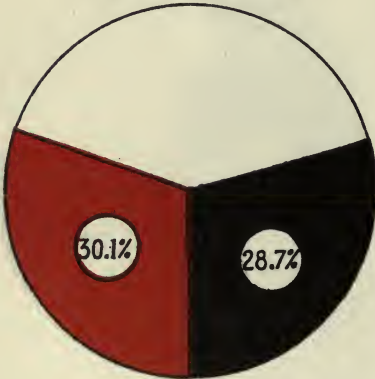


Ratio 1 to 19

BLACK—RETARDATION
RED—ACCELERATION

Per Cent of Acceleration and Retardation Found in the
 EIGHTH GRADE of the Oakland Schools
 September 15, 1917
 Grade 8

$\frac{1}{2}$ Year or More



Ratio 1.07 to 1

1 Year or More



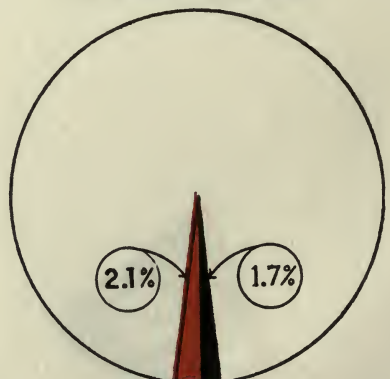
Ratio 1 to 1.5

$1\frac{1}{2}$ Years or More



Ratio 1.07 to 1

2 Years or More



Ratio 1.2 to 1

BLACK—RETARDATION
 RED—ACCELERATION

AGE AND PROGRESS

These data were gathered from all the elementary schools of Oakland on September 15, 1917. It is obvious to any one who is familiar with the problems of gathering data from the reports of hundreds of people that errors are bound to creep in. So far as we can judge from the data at hand these errors may affect seriously the percentages for certain rooms where they occur, but will have little effect on the total percentages for the building or for the city. Whenever it was evident that an error had been made in the tabulation which could not be corrected, the data were not included for this report.

Any child who has made one grade of school work for each year that he *has attended* school is counted normal; if he has made more rapid advancement than this he is counted rapid; if he has progressed slower than normal, he is counted slow.

Any child is counted at age who is in the low first grade and is six or six and a half years; in the high first and is six and a half or seven years; in the low second and is seven or seven and a half years; in the high second and is seven and a half or eight years; etc. (This is the same as the Rochester plan). Under-age or over-age is reckoned accordingly for each grade. It should be remembered that these tables were compiled for the beginning of the year, Sept. 15.

RESULTS

Progress			Age			
Rapid	Normal	Slow	Under-age	Normal	Over-age	Over-age and slow
17%	42%	40%	7%	41%	51%	32%

The following table contains data gathered by other cities, at the same time of the year.

TABLE TO SHOW THE PROGRESS AND AGE PERCENTAGES OF THE OAKLAND SCHOOLS COMPARED WITH SOME OTHER CITIES

PROGRESS	% Rapid	% Normal	% slow
*22 cities of New York state.....	7.1	58.5	34.4
**Oakland	17.0	42.0	40.0
***Rochester	4.9	62.1	33.0
AGE	% Under Age	% Normal Age	% Over Age
*22 cities of New York state.....	8.4	44.7	45.9
**Oakland	7.0	41.0	51.0
***Rochester	5.6	53.6	40.8

* These figures are taken from a report published by W. A. Averill, Albany, New York, February 20, 1918. They embrace a total of 46,000 pupils from twenty-two cities in the state of New York.

** The Oakland data were taken September 15, 1917, and embrace 21,458 pupils (the special and ungraded classes not included).

*** The Rochester report is based upon data taken September, 1916, and embraces 21,699 pupils. The Oakland and the Rochester tables were made on exactly the same plan just one year apart.

The table above shows the Oakland percentages on Progress and Age compared with data gathered in the same manner in other cities.

Progress.—Oakland has a very large percentage of pupils who have made rapid progress. It would appear from this that Oakland schools have made some real effort to find the gifted child and give him some advantage in progress. Such effort is worthy of commendation. The percentage for normal progress is very low—42%. Less than half of our children have progressed at the normal rate. This surely indicates a bad condition. The causes for this should be carefully studied. 40% of our children are slow in progress. If all children who have failed at some time to keep pace with their class were tagged with a black tag, four children out of every ten in our class rooms would belong to the black tag division. At present the army numbers 8583 and recruits are apparently being added each half year at the rate of 8% of the total enrollment.

The report for our Elementary schools for the half year ending in January 1918, shows that 1919 pupils failed to be promoted and that 1847 *other* children left school without being promoted. 8.3% of the total enrollment failed, and 8.02% more left school without promotion. 16.32% of our pupils either failed or left school, (or both). I have no figures but it is easy to see that there is a large "black-tag-division" out of school. 40% slow progress is surely too much. This seems more than is found in other cities. We should discover the cause of this condition in Oakland and apply the remedy.

Age—The Age percentages for Oakland schools show the same tendency that the progress percentages show—a small percentage at normal age and a large percentage over age. 51% of our children are over age for their grade. Oakland has an unusually large percentage of foreign children. The language difficulty is probably a cause for some of this overageness. Further study should be made to discover other causes.

Table 2 gives a summary of the Age and Progress tabulation for each elementary school in Oakland. Here each school may easily be compared with other schools and with the average for the city. For example; Lakeview has 47% rapid, while Campbell and Tompkins each have 3%; Lakeview has 13% slow, while Campbell has 52% and Tompkins 73% slow. Lakeview has 18% under-age and Campbell and Tompkins each have 2% under-age. Lakeview has 9% over-age and slow, while Campbell has 41% and Tompkins has 67% over-age and slow. Lakeview has 756 pupils; Campbell has 203 and Tompkins 359. This table reveals the schools where special attention should be given to age and progress conditions.

Tables 3 to 18 show the percentages for Age and Progress in each grade for each school in the city. These tables will enable principals and supervisors to find quickly the particular room in need of attention. For example; In the Prescott school in the 1B class there are sixty-four pupils. 64% are slow and 51% are over-age and slow. This means that more than half of the children in this grade are over-age for their grade and they also have failed to pass. In the Washington school 5B grade, there are forty-four pupils. 6% are under-age and rapid and 50% are over-age and slow.

Table No. 2
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917
SUMMARY

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in school
	%	%	%	%	%	%	%	%	
Allendale	12	42	45	4	42	53	2	35	350
Bay	9	48	41	4	43	52	1	34	644
Bella Vista.....	12	65	22	10	68	21	5	14	75
Beulah	---	42	57	---	28	71	---	42	14
Campbell	3	43	52	2	43	53	---	41	203
Claremont	23	52	24	11	55	33	7	16	985
Clawson	8	43	47	3	38	57	2	39	628
Cleveland	25	55	20	10	59	30	6	15	198
Cole	16	39	43	5	34	59	3	37	732
Dewey	15	43	40	13	37	49	6	30	366
Durant	16	54	29	5	49	44	3	21	880
Elmhurst	18	38	42	8	37	53	5	35	645
Emerson	19	40	41	7	45	48	5	31	854
Franklin	22	38	39	11	42	46	7	29	614
Frick	26	45	27	12	46	41	5	20	160
Fruitvale	29	33	37	11	40	47	8	24	437
Garfield	7	41	51	3	35	60	1	41	792
Grant	25	39	35	7	44	47	4	26	859
Harrison	6	29	63	---	31	67	---	54	133
Hawthorne	14	43	42	3	49	46	3	32	495
Highland	14	32	53	3	36	59	2	43	514
Intermediate	35	27	37	8	30	61	8	34	497
Jefferson	19	41	39	8	48	43	7	30	655
Lafayette	11	40	48	5	39	55	1	34	946
Lakeview	47	38	13	18	52	28	16	9	745
Laurel	10	53	35	7	51	41	4	26	169
Lazear	6	43	51	3	40	56	1	36	400
Lincoln	30	37	32	8	35	55	5	24	894
Lockwood	13	42	44	6	39	54	3	32	579
Longfellow	19	36	43	8	38	52	6	34	641
Manzanita	14	50	34	8	46	45	4	27	322
McChesney	15	44	41	14	43	43	7	30	497
Melrose	10	45	43	4	46	48	4	34	316
Melrose Hts.....	23	40	37	11	41	48	11	24	476
Peralta	13	57	29	7	55	37	6	26	145
Piedmont	15	50	34	9	51	39	4	25	493
Prescott	7	32	59	2	24	73	1	53	916
Santa Fe.....	12	43	43	5	44	50	4	35	420
Sequoia	14	42	42	1	50	48	1	32	163
Stonehurst	16	53	30	13	60	26	13	13	30
So. Elmhurst.....	3	70	26	---	36	63	---	23	30
University	22	29	48	10	27	61	8	35	157
Tompkins	3	22	73	---	23	76	---	67	359
Vocational	17	32	49	3	19	76	2	47	246
Washington	13	42	43	6	43	50	4	32	779
TOTAL FOR CITY....	17	42	40	7	41	51	4	32	21458

Table No. 3
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917

Grade 1A

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	0	80	20	0	73	26	0	16	30
Bay	0	89	10	0	83	16	0	6	48
Bella Vista.....	0	86	13	0	81	18	0	9	22
Beulah	0	50	50	0	33	66	0	16	6
Campbell	0	75	24	0	62	37	0	21	37
Claremont	0	95	4	0	80	19	0	2	106
Clawson	0	78	21	0	60	39	0	20	79
Cleveland	0	100	0	0	88	12	0	0	25
Cole	0	84	15	17	35	47	0	12	57
Dewey	0	86	13	86	13	0	0	4	22
Durant	0	97	2	0	75	25	0	2	84
Elmhurst	0	82	17	20	35	45	0	15	40
Emerson	0	76	22	0	62	37	0	20	38
Franklin	0	0	100	0	0	100	0	100	10
Frick	0	76	23	0	76	23	0	5	17
Fruitvale	0	81	18	0	70	29	0	7	27
Garfield	0	80	19	3	53	43	0	14	40
Grant	0	10	89	8	61	29	0	26	57
Harrison	0	77	22	0	61	38	0	11	13
Hawthorne	0	82	17	0	74	25	0	11	35
Highland	0	0	100	0	23	76	0	76	21
Jefferson	0	81	18	0	81	18	0	11	61
Lafayette	0	47	51	0	70	29	0	20	96
Lakeview	0	78	19	0	67	30	0	8	55
Laurel	0	90	9	4	76	19	0	4	21
Lazear	0	80	19	0	61	38	0	17	52
Lincoln	0	85	14	3	64	32	0	10	89
Lockwood	0	90	10	2	74	24	0	10	50
Longfellow	0	0	100	0	33	66	0	66	15
Manzanita	0	85	15	0	75	25	0	10	40
McChesney	0	87	12	46	40	12	0	10	49
Melrose	0	87	12	0	58	41	0	12	41
Melrose Hts.	0	100	0	0	85	14	0	0	42
Feralta	0	87	12	0	81	18	0	9	32
Piedmont	0	91	8	0	75	20	0	5	58
Prescott	0	56	43	0	33	66	0	39	124
Santa Fe.....	0	14	85	0	28	71	0	57	14
Sequoia	0	66	33	0	62	37	0	29	24
Tompkins	0	46	53	0	50	50	0	44	52
So. Elmhurst.....	---	---	---	---	---	---	---	---	---
Stonehurst	0	72	27	0	81	18	0	9	11
Washington	0	88	12	0	78	22	0	8	50

Table No. 4
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917

Grade 1B

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	4	32	64	0	52	48	0	44	25
Bay	0	55	45	8	55	35	0	29	34
Bella Vista.....	11	50	38	22	55	11	5	22	18
Beulah	---	---	---	---	---	---	---	---	---
Campbell	0	44	55	5	55	38	0	35	34
Claremont	2	83	14	2	73	24	2	8	49
Clawson	0	74	25	0	79	20	0	20	39
Cleveland	0	88	11	0	100	0	0	0	9
Cole	22	49	29	4	53	42	4	20	45
Dewey	0	53	46	3	68	28	0	25	32
Durant	0	81	18	5	60	34	0	13	38
Elmhurst	0	70	30	0	77	22	0	17	40
Emerson	0	0	100	0	58	42	0	42	17
Franklin	0	76	23	7	60	37	0	18	38
Frick	0	50	50	40	60	0	0	40	10
Fruitvale	0	51	48	2	58	38	0	33	39
Garfield	0	51	48	0	42	57	0	40	45
Grant	0	50	50	0	59	40	0	34	44
Harrison	0	33	66	0	58	41	0	41	12
Hawthorne	0	76	23	3	96	0	0	0	30
Highland	0	62	37	4	66	29	0	25	24
Jefferson	3	32	65	3	41	56	3	44	34
Lafayette	0	7	92	6	50	43	4	23	65
Lakeview	7	84	7	0	80	19	0	0	26
Laurel	0	50	50	5	45	50	0	35	20
Lazear	2	56	41	0	46	53	0	26	41
Lincoln	3	49	45	0	43	56	0	33	51
Lockwood	0	44	55	5	36	57	0	47	38
Longfellow	0	58	41	4	50	45	0	26	46
Manzanita	0	76	23	0	56	43	0	20	30
McChesney	2	63	34	2	73	24	2	14	41
Melrose	0	53	46	0	56	43	0	37	32
Peralta	0	56	43	0	50	50	0	31	16
Piedmont	0	60	39	0	72	27	0	27	33
Prescott	0	35	64	0	32	67	0	51	64
Santa Fe.....	0	60	39	0	57	42	0	34	38
Sequoia	0	50	50	0	66	33	0	25	12
Tompkins	0	19	80	0	38	61	0	61	21
So. Elmhurst.....	0	71	28	0	85	14	0	14	7
Stonehurst	0	62	37	0	50	50	0	25	8
Washington	0	55	44	0	57	42	0	25	47

Table No. 5
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917

Grade 2A

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	0	55	44	0	29	70	0	44	27
Bay	2	83	13	2	70	27	0	10	37
Bella Vista.....	2	72	27	5	66	27	0	22	18
Beulah	0	50	50	0	25	75	0	50	4
Campbell	4	47	47	0	38	61	0	47	21
Claremont	4	82	14	2	84	14	2	8	50
Clawson	7	69	23	5	55	38	5	18	52
Cleveland	0	87	12	0	62	37	0	12	8
Cole	0	65	34	4	47	46	0	34	47
Dewey	3	85	10	0	64	35	0	10	28
Durant	0	62	37	1	50	48	0	22	81
Elmhurst	0	55	44	0	48	51	0	36	52
Emerson	23	40	36	7	49	43	6	32	65
Franklin	3	64	31	3	49	46	2	21	79
Frick	25	55	20	10	25	65	5	10	20
Fruitvale	0	58	41	0	52	47	0	41	17
Garfield	0	66	33	0	36	62	0	33	71
Grant	1	81	16	1	57	40	0	12	54
Harrison	0	16	83	0	16	83	0	83	6
Hawthorne	0	71	28	0	68	31	0	22	35
Highland	7	49	42	4	52	42	3	33	63
Jefferson	0	62	37	3	50	45	0	30	53
Lafayette	15	57	27	1	54	44	1	19	84
Lakeview	36	54	9	21	57	21	21	6	33
Laurel	0	68	31	0	72	27	0	22	22
Lazear	0	87	12	0	48	51	0	12	31
Lincoln	10	66	23	3	33	62	0	20	59
Lockwood	0	39	60	3	58	37	0	23	51
Longfellow	0	86	13	0	52	47	0	13	44
Manzanita	0	77	22	2	50	47	0	17	40
McChesney	0	95	4	4	65	29	0	4	41
Melrose	2	70	26	0	67	32	0	23	34
Melrose Hts.....	2	70	27	10	60	30	2	15	40
Peralta	0	60	40	0	80	20	0	20	5
Piedmont	0	85	15	0	72	27	0	12	40
Prescott	0	57	42	0	40	60	0	35	70
Santa Fe	0	72	27	0	63	36	0	19	66
Sequoia	0	69	30	0	46	53	0	23	13
Tompkins	0	34	65	0	17	82	0	65	35
So. Elmhurst.....	0	88	11	0	33	66	0	11	9
Stonehurst	33	66	0	33	66	0	33	0	3
Washington	0	36	63	3	55	41	0	30	65

Table No. 6
Oakland Public Schools—Elementary

Tabulation of Age and Progress Report, September, 1917

Grade 2B

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	0	50	50	4	54	40	0	36	22
Bay	0	47	52	0	52	47	0	29	34
Bella Vista	41	47	11	17	64	17	17	5	17
Campbell	9	33	57	0	47	52	0	42	21
Claremont	69	22	8	22	58	19	20	8	86
Clawson	1	13	84	0	38	61	0	59	52
Cleveland	27	45	27	18	54	27	9	9	11
Cole	10	51	38	0	40	59	0	34	47
Dewey	0	33	66	0	45	54	0	37	24
Durant	2	79	17	0	64	35	0	11	34
Elmhurst	4	60	34	0	56	43	0	30	23
Emerson	59	19	20	11	62	25	11	13	86
Franklin	4	26	69	13	52	34	0	32	46
Frick	27	18	54	9	45	45	0	27	11
Fruitvale	41	25	33	25	62	12	25	8	24
Garfield	0	36	63	2	36	60	0	52	46
Grant	33	33	33	5	50	44	5	33	18
Harrison	30	30	40	10	30	60	0	40	10
Hawthorne	0	57	42	0	64	35	0	32	28
Highland	23	18	57	2	65	31	0	28	38
Jefferson	6	60	33	3	60	36	0	20	30
Lafayette	4	43	51	1	45	53	0	45	62
Lakeview	56	36	6	24	67	8	20	3	58
Laurel	6	66	26	6	53	40	6	13	15
Lazear	16	27	56	5	43	51	0	27	37
Lincoln	44	27	27	8	41	50	2	19	36
Lockwood	0	55	45	2	42	55	0	37	40
Longfellow	0	59	40	3	61	34	0	26	52
Manzanita	9	31	59	4	27	68	0	50	22
McChesney	3	54	41	6	35	58	3	35	31
Melrose	0	36	63	0	52	46	0	42	19
Melrose Hts.	22	41	36	8	66	25	5	19	36
Peralta	40	33	26	26	26	46	26	26	15
Piedmont	3	33	63	6	36	56	3	46	30
Prescott	14	20	65	2	21	75	0	54	70
Santa Fe	0	52	47	4	56	39	0	30	23
Sequoia	12	37	50	0	50	50	0	25	8
Tompkins	2	18	79	0	25	74	0	67	43
So. Elmhurst	0	50	50	0	16	83	0	50	6
Stonehurst	33	16	50	33	50	16	33	6	6
Washington	0	45	55	5	57	37	0	35	40

Table No. 7
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917

Grade 3A

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	0	37	62	8	37	54	0	45	24
Bay	0	80	20	5	75	20	0	15	40
Bella Vista	---	---	---	---	---	---	---	---	---
Beulah	0	25	75	0	25	75	0	75	4
Campbell	5	27	67	2	32	64	2	51	37
Claremont	17	78	4	6	62	30	4	3	105
Clawson	0	51	48	6	28	65	0	43	64
Cleveland	40	40	18	18	63	18	13	13	22
Cole	1	47	50	2	35	61	0	43	71
Dewey	4	29	66	0	33	66	0	54	24
Durant	20	60	18	9	58	32	3	6	86
Elmhurst	2	52	44	0	52	47	0	25	36
Emerson	5	43	50	1	35	62	1	41	53
Franklin	0	61	38	0	50	50	0	32	34
Frick	40	37	21	6	50	43	6	18	32
Fruitvale	37	42	20	10	48	40	8	14	35
Garfield	0	57	42	0	64	35	0	28	28
Grant	4	74	20	6	53	39	1	14	63
Harrison	0	53	46	0	46	53	0	46	15
Hawthorne	5	70	23	0	76	23	0	17	17
Highland	2	47	50	0	43	56	0	50	44
Jefferson	11	59	28	4	69	26	4	23	42
Lafayette	13	47	38	29	25	44	1	32	101
Lakeview	38	45	16	12	61	25	9	9	31
Laurel	15	61	23	0	61	38	0	23	13
Lazear	0	47	52	2	42	55	0	39	38
Lincoln	26	48	25	4	44	50	3	14	56
Lockwood	1	53	44	1	42	55	1	40	54
Longfellow	0	72	27	2	56	41	0	25	48
Manzanita	7	53	39	7	35	57	0	35	28
McChesney	11	28	59	11	26	61	11	57	42
Melrose	8	55	32	8	38	52	5	32	34
Melrose Hts.	17	73	9	17	36	46	7	9	41
Peralta	19	76	4	4	76	19	4	4	21
Piedmont	0	68	32	4	52	44	0	32	25
Prescott	10	42	46	6	37	55	5	38	111
Santa Fe	11	42	46	5	46	48	5	40	52
Sequoia	0	38	61	0	53	46	0	46	13
Tompkins	0	9	90	0	4	95	0	90	22
So. Elmhurst	12	62	25	0	12	87	0	25	8
Stonehurst	100	0	0	50	0	50	50	0	2
Washington	2	65	31	2	44	52	0	28	67

Table No. 8
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917
Grade 3B

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	25	46	28	7	53	39	3	25	28
Bay	4	40	54	2	45	52	0	43	44
Bella Vista	---	---	---	---	---	---	---	---	---
Beulah	---	---	---	---	---	---	---	---	---
Campbell	8	41	50	9	37	54	5	41	24
Claremont	8	60	31	2	73	24	0	11	45
Clawson	1	23	75	1	32	65	0	51	52
Cleveland	14	50	35	14	57	28	7	21	14
Cole	6	19	74	2	23	74	2	65	47
Dewey	22	27	50	18	18	63	13	40	22
Durant	11	60	27	0	60	39	0	20	43
Elmhurst	34	9	55	11	30	58	9	39	43
Emerson	20	26	53	16	43	40	10	36	60
Franklin	44	30	25	25	34	39	23	10	63
Frick	0	85	14	14	57	28	0	0	7
Fruitvale	38	19	42	19	47	33	9	14	21
Garfield	0	20	80	8	40	52	0	48	25
Grant	28	28	43	12	42	45	8	35	57
Harrison	16	5	77	0	22	77	0	66	18
Hawthorne	30	19	50	3	46	50	0	42	26
Highland	18	12	69	0	29	70	0	54	55
Jefferson	27	20	51	20	58	20	18	13	43
Lafayette	16	32	50	3	41	54	1	38	55
Lakeview	90	0	10	50	40	10	50	10	10
Laurel	15	46	38	7	46	46	7	23	13
Lazear	0	34	65	5	40	54	0	40	35
Lincoln	21	31	47	10	47	42	7	31	38
Lockwood	9	50	40	0	54	45	0	40	22
Longfellow	8	20	70	2	31	66	2	62	48
Manzanita	37	31	31	17	34	48	17	27	29
McChesney	50	27	22	33	33	32	30	18	59
Melrose	25	35	40	5	50	45	0	30	20
Melrose Hts.	2	31	65	57	42	0	0	40	35
Peralta	---	---	---	---	---	---	---	---	---
Piedmont	15	31	52	5	52	41	0	31	19
Prescott	2	27	69	0	11	88	0	66	72
Santa Fe	30	25	44	15	46	38	9	34	52
Sequoia	27	16	55	0	44	55	0	44	18
Tompkins	5	5	88	0	11	88	0	82	17
So. Elmhurst	---	---	---	---	---	---	---	---	---
Stonehurst	---	---	---	---	---	---	---	---	---
Washington	10	31	58	2	41	56	0	39	48

Table No. 9
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917

Grade 4A

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	10	55	35	5	55	40	5	25	20
Bay	2	45	52	2	39	58	0	41	48
Bella Vista.....	---	---	---	---	---	---	---	---	---
Beulah	---	---	---	---	---	---	---	---	---
Campbell	0	26	73	0	20	80	0	66	15
Claremont	17	66	16	12	66	21	6	5	75
Clawson	17	21	60	2	31	65	2	53	41
Cleveland	3	88	7	15	61	23	0	7	26
Cole	6	50	43	0	50	50	0	35	48
Dewey	4	30	64	4	43	52	4	43	23
Durant	12	43	44	2	46	50	2	30	81
Elmhurst	9	32	58	11	27	60	4	46	43
Emerson	12	38	48	3	43	53	2	37	86
Franklin	21	39	39	12	34	37	10	37	66
Frick	30	55	15	15	45	40	15	15	20
Fruitvale	41	27	30	16	36	47	16	25	36
Garfield	4	36	59	1	39	59	1	45	66
Grant	7	44	47	10	38	50	5	32	67
Harrison	8	25	66	0	25	75	0	66	12
Hawthorne	15	36	47	4	47	47	4	40	44
Highland	4	40	55	4	38	57	0	51	47
Jefferson	8	40	50	5	52	42	5	32	59
Lafayette	7	50	42	0	36	63	0	39	84
Lakeview	51	39	9	21	44	33	20	8	98
Laurel	0	46	53	7	15	76	0	53	13
Lazear	0	4	95	4	40	54	0	54	22
Lincoln	23	48	28	13	20	66	6	23	60
Lockwood	6	46	46	13	41	44	4	25	43
Longfellow	27	31	40	2	47	50	2	31	44
Manzanita	33	37	29	25	37	37	20	29	24
McChesney	12	43	43	2	48	48	2	33	39
Melrose	12	25	62	0	37	62	0	33	24
Melrose Hts.....	---	---	---	---	---	---	---	---	---
Peralta	5	47	47	5	52	41	5	41	17
Piedmont	5	59	35	8	56	35	0	24	7
Prescott	6	27	65	0	13	86	0	68	79
Santa Fe.....	11	50	38	5	38	55	2	36	36
Sequoia	11	52	35	5	23	70	5	35	17
Tompkins	3	15	81	0	13	86	0	79	53
So. Elmhurst.....	---	---	---	---	---	---	---	---	---
Stonehurst	---	---	---	---	---	---	---	---	---
Washington	0	46	53	8	46	44	0	35	45

Table No. 10
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917
Grade 4B

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	10	15	75	10	30	60	5	55	20
Bay	13	31	55	2	35	62	0	40	45
Bella Vista.....	---	---	---	---	---	---	---	---	---
Beulah	---	---	---	---	---	---	---	---	---
Campbell	0	35	64	7	28	64	0	50	14
Claremont	41	27	31	28	42	28	18	20	70
Clawson	1	27	70	7	40	52	1	45	40
Cleveland	20	26	53	0	46	53	0	46	15
Cole	17	20	61	0	33	64	0	50	34
Dewey	35	17	47	11	17	70	11	35	17
Durant	30	17	52	8	41	50	8	36	46
Elmhurst	0	39	60	5	45	49	0	45	51
Emerson	10	36	54	6	43	51	4	38	47
Franklin	29	17	53	15	39	44	10	39	58
Frick	40	20	40	40	0	60	40	40	5
Fruitvale	40	33	25	25	40	33	22	14	27
Garfield	21	19	58	7	25	67	7	53	56
Grant	38	19	42	4	38	57	4	36	47
Harrison	12	12	75	0	12	87	0	62	8
Hawthorne	22	20	57	5	32	62	5	42	40
Highland	0	33	66	8	20	70	0	58	24
Jefferson	16	40	43	10	40	50	6	33	30
Lafayette	20	46	32	6	30	62	6	24	62
Lakeview	48	25	25	6	53	39	4	16	43
Laurel	28	35	35	14	28	57	14	35	14
Lazear	8	30	61	5	33	61	2	47	36
Lincoln	29	26	43	22	15	61	12	31	57
Lockwood	6	36	57	0	36	63	0	48	33
Longfellow	28	34	36	26	31	42	21	31	38
Manzanita	45	27	27	9	54	36	9	22	22
McChesney	31	9	59	11	27	61	9	52	44
Melrose	0	40	60	0	40	60	0	40	15
Melrose Hts.....	12	38	48	10	56	33	7	28	39
Peralta	33	33	33	16	44	38	11	33	18
Piedmont	7	55	37	14	51	33	0	18	27
Prescott	5	9	85	0	12	87	0	80	55
Santa Fe.....	13	45	40	5	40	54	5	27	37
Sequoia	11	33	55	0	50	50	0	39	18
Tompkins	7	18	24	0	18	81	0	66	27
Washington	35	26	38	14	42	42	14	30	42

Table No. 11
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917

Grade 5A

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	0	35	64	0	46	53	0	39	28
Bay	6	66	26	0	46	53	0	20	30
Bella Vista.....	---	---	---	---	---	---	---	---	---
Beulah	---	---	---	---	---	---	---	---	---
Claremont	6	52	40	5	47	47	1	33	74
Clawson	0	48	51	2	17	77	2	45	35
Cleveland	27	45	27	0	54	45	0	22	22
Cole	8	36	55	2	23	74	2	48	47
Dewey	0	71	28	9	52	38	9	19	21
Durant	36	39	23	11	45	42	8	20	68
Elmhurst	19	45	35	12	35	51	8	29	62
Emerson	11	48	39	10	46	43	9	28	88
Franklin	26	40	32	7	43	48	7	28	64
Frick	22	55	22	33	66	0	0	22	9
Fruitvale	0	46	53	3	26	69	0	46	26
Garfield	0	53	46	1	30	67	0	44	65
Grant	38	49	11	6	44	49	1	35	59
Harrison	7	7	84	0	15	84	0	76	13
Hawthorne	4	52	42	0	28	71	0	42	21
Highland	3	54	41	6	32	61	3	41	31
Intermediate	0	0	100	0	0	100	0	100	4
Jefferson	9	52	38	4	43	52	4	36	44
Lafayette	1	51	47	1	22	76	0	40	80
Lakeview	46	42	10	21	51	27	19	8	47
Laurel	0	54	45	0	45	54	0	45	11
Lazear	0	30	69	0	30	69	0	60	23
Lincoln	28	54	18	16	30	54	16	18	50
Lockwood	16	41	41	16	18	65	13	0	43
Longfellow	7	1	90	7	39	52	5	50	51
Manzanita	0	64	36	12	48	40	0	24	25
McChesney	9	43	47	3	49	47	3	37	53
Melrose	10	20	70	0	50	50	0	50	10
Melrose Hts.....	27	51	20	6	41	51	0	31	29
Peralta	0	71	28	14	57	28	0	28	7
Piedmont	28	28	42	9	52	38	4	28	21
Prescott	3	34	64	3	15	81	0	57	59
Santa Fe.....	0	63	36	0	15	84	0	36	19
Sequoia	0	50	50	0	50	50	0	22	14
Tompkins	0	0	100	0	15	84	0	84	13
Washington	27	34	38	4	53	42	4	31	47

Table No. 12
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917
Grade 5B

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	27	22	50	0	33	66	0	50	18
Bay	2	33	64	7	35	56	0	51	39
Claremont	51	8	40	37	26	35	28	24	45
Clawson	16	56	27	8	31	60	4	25	48
Cleveland	72	9	18	27	54	18	27	9	11
Cole	30	17	51	2	35	61	2	41	39
Dewey	24	44	32	12	32	56	12	28	25
Durant	38	40	22	10	50	40	8	16	50
Elmhurst	27	13	58	3	24	72	0	55	29
Emerson	7	15	76	2	26	71	0	57	38
Franklin	43	22	33	7	47	45	7	27	80
Frick	61	0	38	0	38	61	0	38	13
Fruitvale	46	10	43	16	33	50	10	36	30
Garfield	5	32	61	1	28	68	1	49	67
Grant	35	35	29	2	37	59	2	27	37
Harrison	0	0	100	0	0	100	0	100	8
Hawthorne	13	26	60	0	30	69	0	47	23
Highland	19	26	54	0	34	65	0	39	46
Intermediate	33	11	55	0	0	100	0	55	9
Jefferson	27	27	45	20	35	45	17	35	40
Lafayette	30	10	58	3	32	63	1	49	55
Lakeview	50	30	20	30	36	33	30	13	30
Laurel	25	12	62	25	37	37	12	37	8
Lazear	0	5	94	0	11	88	0	82	17
Lincoln	40	7	52	7	34	58	7	34	67
Lockwood	25	20	55	7	30	62	5	45	40
Longfellow	27	16	55	8	27	63	8	47	36
Manzanita	48	19	32	12	48	38	6	25	31
McChesney	12	26	62	11	44	44	4	26	34
Melrose	11	22	66	5	50	44	5	44	18
Melrose Hts.....	40	10	48	13	24	62	8	45	37
Peralta	14	21	64	7	7	85	7	64	14
Piedmont	36	29	34	15	36	47	9	29	44
Prescott	5	15	78	5	15	78	5	66	33
Santa Fe.....	37	0	62	6	43	50	6	43	16
Sequoia	53	15	30	7	61	30	7	15	13
Tompkins	7	0	92	0	15	84	0	84	26
Washington	25	18	56	6	29	63	6	50	44

Table No. 13
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917

Grade 6A

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	35	14	50	7	28	64	7	50	14
Bay	15	21	63	2	32	65	2	73	46
Claremont	8	24	66	4	44	51	2	37	74
Clawson	33	8	58	4	33	62	4	41	24
Cleveland	12	50	37	6	56	37	6	31	16
Cole	16	25	58	4	16	79	2	55	43
Dewey	23	34	42	15	30	53	11	42	26
Durant	25	44	30	2	50	47	2	19	36
Elmhurst	10	32	57	7	39	53	3	49	28
Emerson	22	23	53	15	23	60	7	42	63
Franklin	10	45	47	2	37	59	2	37	37
Frick	12	37	50	0	50	50	0	37	8
Fruitvale	42	15	42	12	27	60	9	36	33
Garfield	12	38	48	6	16	77	4	46	49
Grant	21	50	27	10	53	36	7	21	83
Harrison	0	23	76	0	23	76	0	53	13
Hawthorne	18	45	36	3	51	45	3	33	33
Highland	5	11	83	0	16	83	0	72	18
Intermediate	0	0	100	0	0	100	0	100	5
Jefferson	32	41	25	0	41	58	0	25	31
Lafayette	11	33	55	4	27	67	1	45	105
Lakeview	64	27	8	21	54	24	18	4	74
Laurel	12	37	50	12	37	50	12	37	8
Lazear	0	42	57	0	28	71	0	52	21
Lincoln	30	23	45	7	18	73	5	36	68
Lockwood	5	29	64	5	29	64	0	54	37
Longfellow	26	40	33	14	38	47	14	28	42
Manzanita	0	9	90	9	33	57	0	52	21
McChesney	25	28	46	10	35	53	0	28	28
Melrose	3	13	83	0	20	80	0	73	30
Melrose Hts.	29	26	44	5	58	35	5	29	34
Piedmont	15	57	26	26	52	21	15	21	19
Prescott	14	30	56	0	18	82	0	56	50
Santa Fe	20	25	53	12	18	69	10	53	39
Sequoia	33	44	22	0	33	66	0	22	9
Tompkins	11	34	53	3	23	73	3	50	26
Washington	11	42	45	7	38	54	4	40	42

Table No. 14
 Oakland Public Schools—Elementary
 Tabulation of Age and Progress Report, September, 1917
 Grade 6B

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	33	28	38	5	22	72	5	38	18
Bay	28	23	48	5	25	70	5	46	60
Claremont	25	21	52	13	37	49	1	37	57
Clawson	26	36	38	10	17	71	10	38	39
Cleveland	73	10	15	21	21	57	21	15	19
Cole	37	13	48	5	26	67	5	48	37
Dewey	35	10	55	20	45	35	20	35	20
Durant	14	41	44	2	41	55	2	38	34
Elmhurst	34	17	47	16	21	61	15	43	78
Emerson	9	42	47	2	35	61	2	38	42
Franklin	43	17	38	28	23	18	15	23	39
Frick	37	50	12	25	12	62	12	12	8
Fruitvale	17	27	54	9	22	68	0	40	22
Garfield	22	35	42	7	35	57	5	40	40
Grant	41	21	36	3	49	47	3	23	55
Hawthorne	30	19	50	19	30	50	15	38	26
Highland	27	27	45	9	21	69	9	36	33
Intermediate	0	0	100	0	0	100	0	100	2
Jefferson	31	9	58	12	29	58	9	51	41
Lafayette	16	31	51	0	31	68	0	46	41
Lakeview	38	28	33	19	35	45	14	28	42
Laurel	54	18	27	18	63	18	18	0	11
Lazear	16	25	58	4	29	66	4	50	24
Lincoln	35	12	52	2	35	62	2	42	40
Lockwood	36	12	51	15	21	63	5	45	33
Longfellow	29	16	54	10	21	67	8	48	37
Manzanita	0	50	50	20	10	70	0	50	10
McChesney	5	13	80	8	33	58	2	50	36
Melrose	25	50	25	16	50	33	16	25	12
Melrose Hts.	51	21	27	8	27	64	8	21	37
Piedmont	30	21	47	26	30	43	21	39	23
Prescott	21	21	57	4	16	78	4	57	42
Santa Fe	32	17	50	7	35	57	7	39	28
Sequoia	55	22	22	0	55	44	0	22	9
Tompkins	8	41	50	0	8	91	0	50	12
Washington	31	22	45	11	38	50	11	31	44

Table No. 15
 Oakland Public Schools—Elementary
 Tabulation of Age and Progress Report, September, 1917
 Grade 7A

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	0	59	48	0	40	59	0	36	22
Bay	6	60	32	11	13	74	4	32	43
Claremont	30	41	27	21	27	50	15	26	65
Clawson	38	33	27	0	38	61	0	27	18
Cole	19	35	45	14	30	54	4	38	42
Dewey	42	26	31	21	26	52	21	31	19
Durant	8	55	35	8	35	55	4	32	68
Elmhurst	46	38	15	7	34	57	7	15	26
Emerson	24	68	7	7	44	47	7	7	38
Fruitvale	50	25	25	28	17	53	25	25	28
Garfield	10	59	29	0	32	67	0	24	37
Grant	31	35	32	17	34	48	10	23	64
Hawthorne	21	29	48	2	35	62	2	48	37
Highland	5	11	83	0	16	83	0	83	18
Intermediate	35	30	34	8	32	58	8	30	146
Jefferson	21	41	36	4	46	48	4	34	41
Lafayette	21	37	40	1	33	64	0	32	56
Lakeview	50	33	16	25	48	25	24	9	62
Lazear	53	23	23	15	23	61	15	23	13
Lincoln	29	38	32	9	33	56	7	25	71
Lockwood	46	25	27	10	33	55	7	20	39
Longfellow	28	30	41	10	25	64	7	41	39
Melrose	58	23	17	35	35	29	35	17	17
Melrose Hts.	25	40	34	0	34	65	0	31	32
Piedmont	2	42	54	16	28	54	2	45	42
Prescott	14	17	68	0	20	80	0	65	35
University	0	8	91	8	38	52	0	52	36
Vocational	17	7	73	0	7	91	0	69	23
Washington	7	35	56	5	35	58	3	41	51

Table No. 16
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917
Grade 7B

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	27	27	44	5	33	61	5	33	18
Bay	15	23	60	0	26	73	0	55	38
Claremont	0	65	34	0	43	56	0	34	32
Clawson	6	13	80	6	13	80	6	80	15
Cole	21	21	57	15	33	51	15	39	33
Dewey	23	23	53	15	15	69	15	46	13
Durant	5	22	72	5	27	66	2	58	36
Elmhurst	39	12	48	12	24	63	12	45	33
Emerson	21	37	40	6	28	65	3	34	32
Fruitvale	40	16	44	8	24	68	8	16	23
Garfield	11	8	79	2	20	76	2	70	34
Grant	34	14	51	7	26	65	7	41	41
Hawthorne	23	20	56	5	41	53	5	41	39
Highland	26	40	33	6	20	73	6	33	15
Intermediate	35	18	45	8	30	61	8	40	124
Jefferson	43	12	43	15	35	48	12	38	39
Lakeview	53	24	22	17	51	31	17	13	58
Lazear	30	20	50	20	30	50	20	20	10
Lincoln	40	9	50	14	30	54	9	38	42
Lockwood	---	---	---	---	---	---	---	---	---
Longfellow	64	17	17	28	28	42	25	14	28
Melrose	50	20	30	20	20	60	20	30	10
Melrose Hts.	32	22	45	19	25	54	16	35	31
Piedmont	39	26	34	0	30	69	0	34	23
Prescott	21	6	71	3	28	68	3	62	32
University	0	32	67	0	28	71	0	57	28
Vocational	26	8	65	6	16	76	5	58	73
Washington	42	6	51	17	14	68	14	51	47

Table No. 17
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917

Grade 8A

School	Rapid	Normal	Slow	Under age	At age	Over age	Under age and rapid	Over age and slow	Total No. in class
	%	%	%	%	%	%	%	%	
Allendale	27	44	27	0	27	72	0	22	18
Bay	17	50	32	2	35	61	0	32	34
Claremont	32	41	25	9	32	58	6	19	31
Clawson	0	18	81	0	0	100	0	81	11
Cole	47	31	20	7	26	65	7	16	67
Dewey	20	50	28	7	39	53	3	25	28
Durant	29	50	20	8	37	54	6	16	62
Elmhurst	21	42	36	6	36	57	6	33	30
Emerson	7	71	21	7	50	42	7	21	28
Fruitvale	31	31	37	0	31	68	0	37	16
Garfield	7	5	87	10	24	64	0	63	57
Grant	29	41	29	11	23	64	9	27	51
Hawthorne	11	58	30	2	41	55	2	22	36
Highland	62	29	8	12	20	66	12	8	24
Intermediate	30	42	27	6	35	57	6	27	107
Jefferson	43	29	27	24	24	51	21	27	37
Lakeview	63	31	4	9	51	39	9	4	41
Lincoln	61	31	6	8	31	59	8	6	47
Lockwood	22	38	38	3	15	75	3	35	31
Longfellow	44	34	21	19	19	61	17	19	47
Melrose Hts.	14	62	22	3	55	40	0	14	27
Piedmont	8	26	65	8	34	56	4	43	23
Prescott	27	18	54	18	0	81	18	54	11
University	23	51	25	7	21	71	5	19	38
Vocational	13	51	34	1	27	70	0	34	99
Washington	17	55	28	8	29	63	7	27	100

Table No. 18
Oakland Public Schools—Elementary
Tabulation of Age and Progress Report, September, 1917
Grade 8B

[illegible]

Table No. 19
OAKLAND PUBLIC SCHOOLS—ELEMENTARY
TABLE SHOWING RAPID PROGRESS BASED UPON DATA TAKEN SEPTEMBER, 1917.
HALF YEARS (TERMS) SPECIALLY PROMOTED.

TERMS ACCELERATED	1		2		3		4		5		6		7		8		Total	
GRADES	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	26	0.8	.....	.....	.....	.....	.....	.....	.....	.....	..	.....	..	.....	..	.....	..	0.8
2	202	6.0	27	0.8	5	0.1	.....	.....	.....	.....	..	.....	..	.....	..	.....	..	6.9
3	349	11.0	53	1.0	13	.4	5	.1	.....	.....	..	.....	..	.....	..	.....	..	12.5
4	371	12.0	110	3.0	19	.6	9	.3	.....	.....	..	.....	..	.....	..	.....	..	15.9
5	482	18.0	91	3.0	15	.5	5	.1	2	.07	2	.07	..	.....	1	.03	..	21.7
6	377	15.0	145	5.0	54	2.0	7	.2	1	.04	1	.04	..	.....	..	.....	..	22.88
7	424	19.0	61	2.0	58	2.0	40	1.0	15	.6	..	.....	..	.....	..	.....	..	24.6
8	411	21.0	69	3.0	78	4.0	24	1.0	13	.6	6	.3	3	.1	2	.1	..	30.1
Total	2642	12.0	556	2.0	242	1.0	90	.4	31	.1	9	.04	3	.01	3	.01	..	15.56

This table shows how many pupils there are in each grade who have been given progress more rapid than normal and have made, *at some time or other in their career*, an extra promotion of 1 term (half year), 2 terms, etc. Only 26 pupils or eight-tenths of 1% of those in grade one have made rapid progress.

In the third grade 11% of the pupils have made an extra half year; 1% have made an extra year, etc.

In the eighth grade 21% have made an extra half year; 3% have made 1 year; 4% have made 1½ years; 1% have made 2 years, etc. A total of 30.1% of the pupils in the eighth grade have made some extra progress somewhere in the school course. However, only 9% of all of the eighth grade pupils have gained 1 year or more, while recent studies made in many cities indicate that fully 20% of the pupils should gain a year or more by the time they finish the eighth grade. Our school machinery as organized in the past has not discovered many of the pupils who should have done more work or should have moved more rapidly.

Table No. 20
OAKLAND PUBLIC SCHOOLS—ELEMENTARY FAILURES

The Figure at the Top of Each Column Indicates the Number of Half Years (Terms) Failed After Regular Attendance.

Grade.	1		2		3		4		5		6		7		8		9		10		11		12		Total.	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	706	22	200	6	61	2	15	.4	5	.1	2	.06	....	....	1	.03	....	....	1	.03	1	.03	....	....	30.65	
2	572	18	276	9	165	5	68	2.0	22	.7	13	.4	3	.09	3	.09	....	....	....	....	....	....	....	....	35.3	
3	567	19	345	11	189	6	105	3.0	47	1.5	16	.5	6	.2	2	.06	3	.09	1	.03	....	....	....	....	41.4	
4	648	22	365	12	157	5	112	3.0	58	1.0	26	.8	26	.8	7	.2	3	.1	....	....	....	....	....	....	45.8	
5	507	19	318	12	175	6	126	4.0	69	2.0	44	1.6	8	.2	2	.07	5	.1	....	....	....	....	....	....	44.9	
6	476	19	325	13	224	9	107	4.0	23	.9	15	.6	4	.1	1	.04	....	....	....	....	2	.08	2	.08	46.8	
7	480	22	270	12	109	5	59	3.0	19	.8	3	.1	2	.09	1	.1	....	....	....	....	....	....	....	....	43.0	
8	285	15	150	8	81	4	25	1.0	11	.5	1	.05	2	.1	....	....	....	....	....	....	....	....	....	....	28.7	
Total	4241	20	2249	10	1161	5	617	3.0	254	1.0	120	.5	51	.2	17	.07	11	.05	2	.009	3	.01	2	.009	39.8	

This table shows the number of pupils and the percentage of pupils who have failed one term ($\frac{1}{2}$ year); two terms, etc. For example, in the sixth grade, the table shows 476 pupils or 19% who have failed one term; 325 pupils or 13% who have failed two terms—a total of 46.8% who have failed from one to twelve terms.

39.8% of all the pupils enrolled in the elementary grades on September 15, 1917, had failed one or more terms during their school career. 19% had failed two or more terms. 10% had failed three or more terms; 4.8% had failed four or more terms.

Table No. 21
Oakland Public Schools—Elementary.

Grade	% *Over age and slow	**Failed at end of term %	***During term Accelerated progress %
1 A	17	16.4	0.7
1 B	27	13.1	2.0
2 A	24	8.	4.6
2 B	31	8.	10.2
3 A	29	8.	4.5
3 B	37	7.	2.7
4 A	36	5.	3.7
4 B	38	4.	1.7
5 A	35	6.	2.0
5 B	40	5.	1.5
6 A	39	6.	1.3
6 B	39	5.	3.0
7 A	32	7.	1.8
7 B	42	6.	1.9
8 A	26	5.	3.5
8 B	30	3.	5.2

* The percentage of over-age and slow was taken on September 15, 1917.

** The percentage of failure was taken at the end of the term in January. Those who left the Oakland schools during the term (an average of 8.02% of each grade) are not considered among the failures. We know from experience that a very high percentage of these will fail to make normal progress in school this year.

*** The percentage of acceleration was figured from the number of pupils in each grade at the end of the term who had made progress more rapid than normal.

Following are a few of the facts revealed by tables 19, 20 and 21 and a few of the questions suggested:

1. 30% of the children in the first grade are retarded in progress. Why is this percentage so high? Is the course of study not adapted to the needs of the children? Is the administrative machinery wrong? Why should one child out of three in the first grade be retaught that which has been taught at him from one to eleven times and which he has failed to learn?

2. The total retardation in grades 2, 3, and 4 increases respectively 5, 6 and 4%. Failure at the end of the term in these grades was 8, 7 and 5% respectively. Why is the percent of failure greater than the increased percent of retardation? Two things are probable (1) Several of those who fail in these grades have failed before, (2) Some of those who have failed drop out of school.

3. From grade four to grade seven inclusive the percent of retardation remains almost constant. The average semi-annual failure in each of these grades is between 5 and 6%. Evidently those who have failed before finishing the fourth grade have failed again or some "former failure" drops out of school for each new failure that is recorded.

4. The percentage of retarded in the 8th grade is lower than that of any other grade. Is this due to the fact that a large number of the retarded

children reach the compulsory age limit and quit school before they reach the 8th grade?

5. The sixth grade furnishes the highest percent of retardation. Is this also due to the compulsory age limit?

6. The percent of acceleration increases gradually until the 8th grade is reached. The percent of retardation does not increase in the upper grades. Apparently very few of the accelerated children drop out of the elementary school while many retarded children drop out.

7. The total retardation shown by the tables is 39.8%, the total acceleration is 15.5%. However, if the figures could be given for all those who have dropped out of these grades the balance would be much heavier for retardation.

8. The percent of failure in the first grade is double that of any other grade.

9. The percent of failure in the 8th grade is lower than that of any other grade.

The Psychological Clinic

The remainder of this report deals with those phases of work classified under the Psychological Clinic. It deals with (1) The direction of the special classes for children who are unable because of mental trouble to do their work with a regular class, (2) The general study of individual differences among children thruout the schools, (3) The general problems of gradation and promotion.

The Special Classes

There are twelve "Special Classes" so located that each may serve the needs of four or five buildings that may contribute to its enrollment. Any pupil may be a candidate for a special class who is over age and slow and who shows both by his school record and by the mental test that he is unable to work successfully with a regular class. The purpose of the special class instruction is to give each pupil as much of the regular curriculum as he can take with reasonable effort, to give more work of manual and vocational nature than can be given in the regular classes, to discover and to train any special ability that each child may show which will enable him to become a useful member of society, partially or wholly self supporting. The purpose of the special class is not to coach up a child to enter a regular class again. However, if a child shows at any time the ability to do work with a regular class he should be transferred to such a class.

Each special class is limited to an enrollment of sixteen pupils.

Psychological Tests

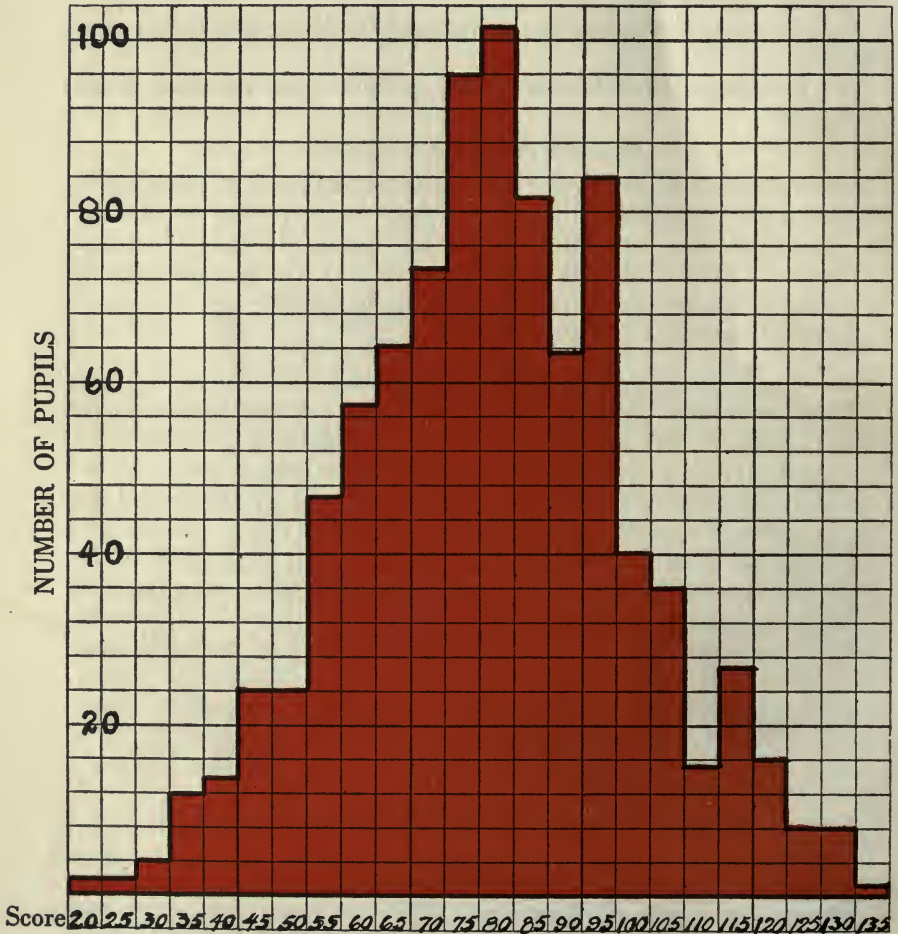
During the month of December, 1917 the group test which was designed for use in the army was given to about 2000 Oakland school children from grades three to nine inclusive. The purpose was to get age and grade standards for these tests. As soon as certain standards had been gained these tests were withdrawn by the government from school use. In the brief time that these tests were used it was demonstrated that they could be of real service in school administration.

OTIS TEST

May 28, 1918—8 B Scores—900 pupils

LEGEND		SCORE
Lowest	10%	20- 55
2nd	"	56- 63
3rd	"	64- 70
4th	"	71- 76
5th	"	77- 81
6th	"	82- 86
7th	"	87- 91
8th	"	92- 98
9th	"	99-106
Highest	10th	" -107-144

Median Score—81



This figure shows the distribution of scores made in the Otis Group Test by 900 High Eighth grade pupils. (For discussion see page opposite.)

(Each square ☐ in diagram represents four pupils.)

THE OTIS GROUP TEST

During the month of May, we secured permission from Arthur S. Otis to give certain of his group tests using our own method of timing and scoring. These tests were given to all the 8th grade graduating classes, to all the low 9th grade classes and to some of the sixth grade classes. Tests 2, 3, 4, 5, 7, and 8 of the Otis series were given.

RESULTS OF THE TEST-HIGH 8TH GRADE

The figure on page 208 shows the distribution of the scores of the first 900 eighth grade pupils tested in May, 1918. A glance at the figure shows that there is a normal distribution of scores. The height of each column indicates the number of pupils as shown by the figures on the left margin who made a certain score, shown by the figures at the foot of the column. For example, two pupils made scores between 20 and 24 inclusive, twenty-four pupils made scores between 45 and 49 inclusive, one hundred and two pupils made scores between 80 and 84 inclusive, etc. The range of scores in these eighth grade tests was from 20 to 140. The median score was 81. The following table represents the range of scores in each 10% group of the nine hundred. The scores were arranged in order from the lowest to the highest. Counting up from the bottom ninety scores (the lowest 10%) we find that the range in score is 20 to 55 inclusive; for the second ninety (the second 10%), the range is 56 to 63, etc.

VIII. B SCORES—900 PUPILS OTIS TEST, MAY 28, 1918

	Score		Score
Highest 10%.....	107-144	5th ".....	77-81
9th ".....	99-106	4th ".....	71-76
8th ".....	92-98	3rd ".....	64-70
7th ".....	87-91	2nd ".....	56-63
6th ".....	82-86	Lowest 10%.....	20-55

The "score" as we have been discussing it means the total score made by the pupil in the six divisions of the test. It is well to note, that for the more careful analysis of each child's reactions, we have six other scores that are significant. These are the scores for each individual test. (See table below).

TABLE TO SHOW THE 25 PERCENTILE, THE 50 PERCENTILE, AND THE 75 PERCENTILE SCORES FOR EACH OF THE SIX TESTS.

Test No.	2	3	4	5	7	8
75 percentile	17	15	22	16	16	14
50 percentile	14	13	16	14	14	12
25 percentile	11	11	8	12	12	10

The table shows that in test 2,
 25% of the pupils made a score of 11 or below.
 50% of the pupils made a score of 14 or below.
 75% of the pupils made a score of 17 or below.

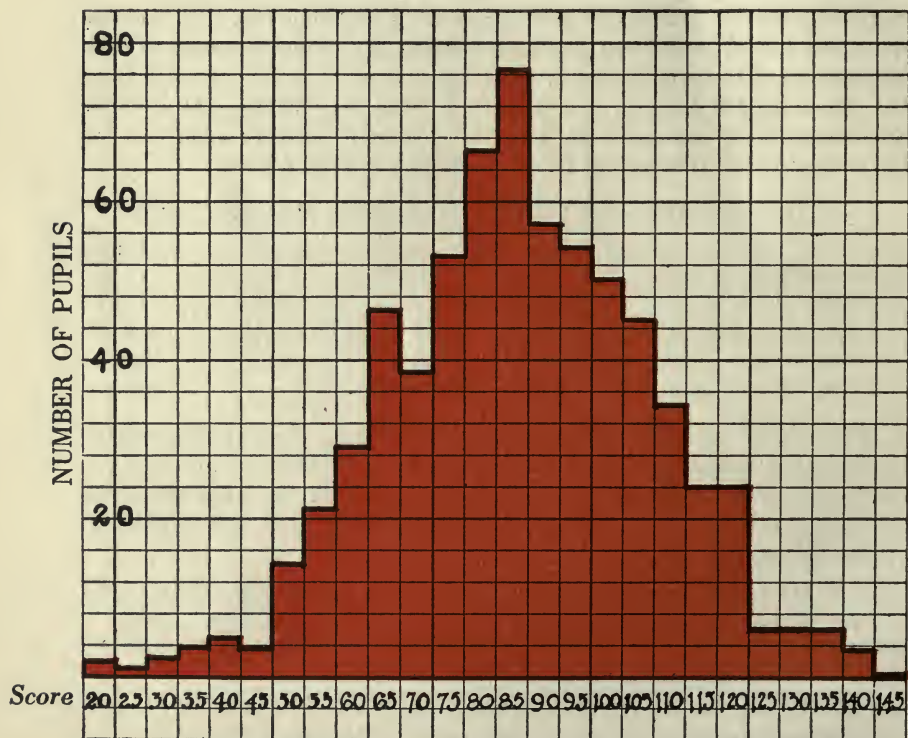
OTIS TEST

9A Grade—690 pupils

May 28, 1918

		SCORE	
Lowest or 1st 10%	20	—	60
2nd "	61	—	69
3rd "	70	—	77
4th "	78	—	82
5th "	83	—	87
6th "	88	—	93
7th "	94	—	99
8th "	100	—	106
9th "	107	—	115
Highest or 10th	116	—	149

Median Score—88



Score by Group Test

This figure shows the distribution of scores made in the Otis Group Test by 690 Low 9th grade pupils in May, 1918.

(Each square ☐ in the above diagram represents four pupils.)

This table, therefore, furnishes the means of studying any pupil's score from six different angles.

The results of the tests of the 8th grade pupils together with their scholarship reports will be sent to the high schools in Oakland where the pupil is to enter school next fall. We recommend that those pupils who represent the highest 20% of the city, according to the test score, and who also have good scholarship records be given a heavier schedule of mental work in the high school this fall. On the other hand, all those who made low scores in the test and who also have poor scholarship records are cited for special guidance and counsel in the school work which they elect for the future.

The test data should be of similar service to those who have charge of the guidance of the 9th grade pupils in their course of study.

LOW 9TH GRADE

The figure on page 210 shows the distribution of the scores for 690 low 9th grade pupils. The median score for the ninth grade is 88. The following table represents the range of scores for each 10% group.

690 9A CASES OTIS TEST, May 28, 1918.

	Score.
Highest or 10th 10%.....	116-149
9th "	107-115
8th "	100-106
7th "	94-99
6th "	88-93
5th "	83-87
4th "	78-82
3rd "	70-77
2nd "	61-69
Lowest or 1st "	20-60

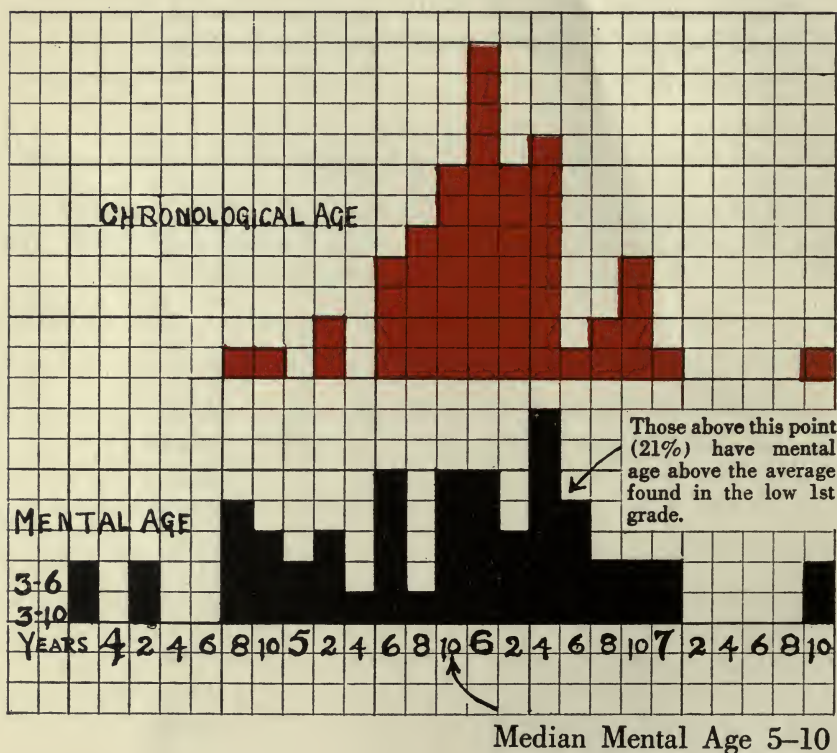
The department plans to follow these high school pupils thru their next year's work, and to make recommendations as to increasing or diminishing or changing the course in many individual cases. The tests should help us to pick out many students of superior capacity and should enable us to give them work better suited to their needs. Every pupil should have large freedom to do that which he is capable of doing.

BINET TEST

KINDERGARTEN—OAKLAND, CAL.

MEDIAN MENTAL AGE 5-10

No. of Pupils—55



(Each square ☐ in the above diagram represents one pupil.)

(For discussion see page 213)

BINET TESTING

Since January 1, 1918, 3003 pupils have been given the individual mental test. The Binet test, Stanford revision, has been used. Practically all this testing above the primary grades has been done by Mr. Knollin, Mrs. Hicks and Mr. Dickson. Nearly all of the tests of the first and second grades have been made by thirteen teachers who have been especially trained for the testing of pupils below the nine-year mental level. These tests involved 56 kindergarten children; 1015 first grade children, and the rest are scattered from second grade to high school inclusive.

The tests made by Mr. Knollin and Mrs. Hicks were mainly on children in the Detention Home. Those made by Mr. Dickson were of cases involving some special difficulty in the classroom, either as to progress or discipline, or of pupils desiring to leave school to go to work. A very large percentage of the children who were tested because they had trouble in school or because they had been sent to the Detention Home were found to be mentally retarded. Many of them are in the border-zone class and some are feeble-minded.

THE KINDERGARTEN TESTS.

The graph on page 212 shows the tabulation of the mental ages of 55 kindergarten children. These tests involve all children found in the kindergartens where the tests were made, hence the *cases* are unselected.

The data were compiled about the middle of the term.

The mental ages range from 3 yr. 6 mo. to 7 yr. 10 mo.

The median mental age is 5 yr. 10 mo.

The ages of the children range from 4 yr. 8 mo. to 8 yr. 2 mo.

The median age is 6 yr. 0 mo.

The most significant fact here is that the children in this group represent mental ages in five different year-groups. Imagine the difficulty of the teacher when she tries to put the same problems before a group of children some of whom are mentally 3 years old, others 4, others 5, others 6, and still others 7. A teacher cannot be expected to do satisfactory work with a large class of children who have such a wide range in mental ability. 21% of these kindergarten children have a mental age of 6 years and 6 months or over. This is above the median mental age of the low first grade children. In other words it would appear that 21% of these kindergarten children could be doing low first grade work better than the average child now in the low first grade. On the other extreme, 20% of these children have a mental age below 5 years. Our kindergarten work is not planned to fit such children. If these children all remain in the kindergarten, they should be grouped according to ability. Mental testing should be used *to assist* in this grouping.

BINET TEST

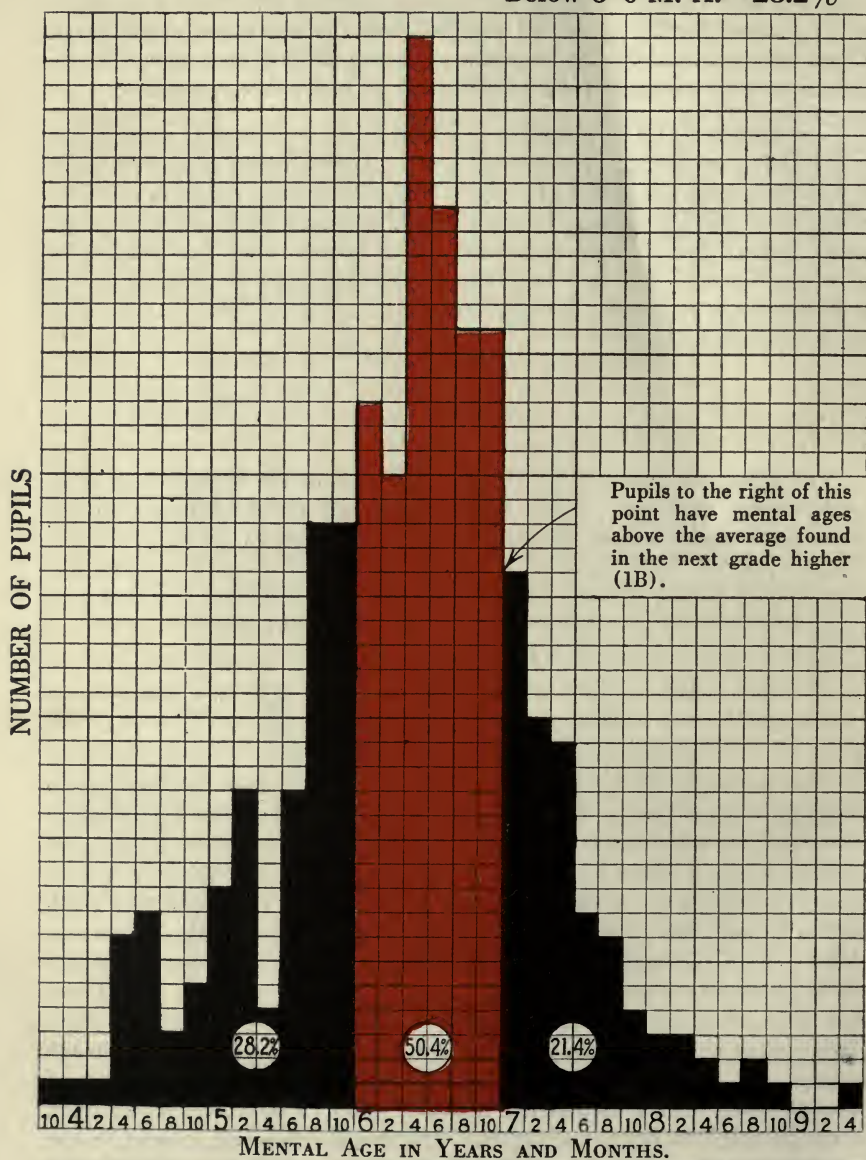
MENTAL AGE, LOW FIRST GRADE—OAKLAND

397 cases

MENTAL AGE

MEDIAN MENTAL AGE 6-4

Below 6-0 M. A.—28.2%



About 90 % of pupils below 6 years will fail this term's work.

6 years 4 months equals City median for 1A grade.

(Each square ☐ in the above diagram represents one pupil.)

FIRST GRADE TESTS

The graph on page 214 reveals the mental age distribution of 397 unselected low first grade children tested about the middle of the term.

The median mental age is 6 yr. 4 mo. This is about the age that we would expect to find doing satisfactory low first grade work.

113 children, or 28.2% of the group, tested below 6 years mental age. Since our first grade work is planned for the 6-year-old, these children "theoretically" do not belong in the first grade. "Practically" about 90% (our figures are not quite complete) of this group failed to pass to the next grade at the end of the term. Although 30% of the children in the first grade in September had failed, an average of 15% failed (again?) at the end of the term.

The mental test reveals that we should expect about 20% to fail *for one reason alone*—they have not yet reached the mental age necessary to master the first grade course of study without an unusual amount of personal attention. Each year there are from 400 to 600 children in Oakland who are struggling with first grade work who stand almost no chance of passing. Is it not an injustice to childhood to require or even to permit these children to try to do work that is impossible for them, only to fail them at the end of the term and make them do the same work over again? To introduce the little child's school career with a failure is very likely to have an undesirable effect on his attitude toward later school life. These children should do work more slowly and *succeed*, or they should be given *other* work which they *can* do. The mental test is a great assistance in discovering these children when they enter school.

50.4% of these low first grade children had mental ages between 6 and 7 years. Theoretically, this is the group that is properly graded for the work that is supposed to be done in the low first grade. From this it would appear that only one-half of our low first grade children are working where their mental capacities really fit them to work.

21.4% of this group tested with a mental age of 7 years or above. This is above the *median* mental age found in the high first grade (6 yr. 8 mo.). After just a little coaching most of these pupils would easily do the high first grade with the regular class. However, data gathered during the year show that not more than 2% of low first grade children receive recognition by special advancement or promotion. Practically every child, regardless of his capacity, it appears, must "serve his time" in the low first grade. It is unfortunate that the most capable minds are thus taught with the "engine idle" much of the time. "We cannot measure the serious results to later life-power caused by those habits of idleness, ease, and carelessness that tend to be formed by the child who seldom is required to exercise his maximum power in the solution of problems in early school life. Mental tests will help us to discover the gifted child.

The statistics on acceleration show clearly that the schools have neglected this problem. Mental tests in other grades have shown con-

ditions somewhat similar to those found in the first grade. By a scientific application of mental tests and standard tests of classroom work to the gradation and promotion of pupils, Oakland's percentages of retardation and over-ageness should be somewhat reduced and the percentage of acceleration should be greatly increased. Incidentally, the quality of citizenship for the future should be made better.

THE COST OF FAILURE

At the end of the first term this year, 1919 pupils failed to pass on with their class. The estimated per-pupil cost of education in our elementary grades is \$51.66 per year. For one-half year the cost would be \$25.83. The cost of teaching these 1919 pupils for the half year, therefore, has been approximately \$49,567.77. Why did these pupils fail?

Every child who fails should be examined mentally. Social history and environmental condition that are the most probable causes of failure should be recorded. This will lay emphasis upon the study of the individual. A proper diagnosis of the cases will prevent some of these children from failing. Putting aside for the moment the benefits that may accrue to some of the children, and considering the problem from a money standpoint alone, it will probably *cost less* to provide such attention for each of these children than it will to neglect it.

SEVEN RECEIVING CLASSES COMPARED

The graphs on page 218 represent the mental ages of all the low first grade pupils found in seven of the schools of Oakland. Those pupils represented by the red section have mental ages between six and seven years, those to the right are above seven years, those to the left are below six years. Room B furnishes a marked contrast to Room C. B has 28 pupils, C 35 pupils. The median mental age in B is 7 yrs., in C 5 yr. 8 mo. The median I. Q. (intelligence quotient) in B is 110, in C 86. Let us say arbitrarily, merely for a basis of comparison, that an I. Q. from 90 to 109 inclusive represents normal mental ability. Then, Room B has two pupils testing below normal, C eighteen. Room B has twelve pupils testing normal, C eleven. Room B has fourteen pupils testing above normal, C five. More than 50% of the pupils in Room C have not mental development sufficient to master, in the regular time, the work planned for the grade. More than 50% of the pupils in Room B have a mental development equal to those who easily master the work of the next grade higher. *If the teachers of these two rooms were to be judged by their ability to get their pupils to master the same course of study, it might easily happen that a weak teacher in Room B would be judged superior, while a stronger teacher in Room C would be judged inferior.* From this it appears logical that a teacher should not be judged from the results of her work until it is known what is the "nature of the clay" she has to work with.

From a study of the graph, it appears that Rooms B, D, E, F, and G have pupils who should be studied with a view to advancement more rapid than normal. Schools C and G have such serious problems of mental retardation that we would suggest a segregation of those mentally retarded into special groups with a changed course of study and a changed rate of progress. A large number of these children are repeating their grade for the second, third or fourth time. We should ask ourselves seriously if this is the right thing educationally for these children.

In the main, those children represented by the section in red are being fairly educated, those represented by the sections to the right and to the left are not. The majority of those to the right are being trained in habits of mental carelessness and idleness which may remain as a great handicap throughout life. The majority of those to the left are getting *real training for undesirable* citizenship. Almost constantly the tasks placed before them are too difficult, or impossible. The natural result is a loss of interest, a loss of self respect or a resort to subterfuge and dishonesty in order to gain some commendation for successful work which they see others getting. Social unrest, sham, and the I. W. W. spirit may easily have their beginnings in these early social problems, and particularly is this true if the problems go unchanged on thru the grades. The place to start the change is where the differences are discovered. From those who have little capacity, little should be required. From those who have great capacity much should be required. Sometimes the American spirit of freedom and equality is interpreted to mean that all must be made to fit into the same mould. On the contrary, we believe that it means that every individual should have equal opportunity and freedom to develop as his abilities and circumstances permit. In most of these rooms there should be two or three divisions in the class—the slower ones in one division, the faster ones in another. In a large school like the Prescott this segregation can be by rooms.

The slower division should be given a minimum course composed of the bare essentials required to do the work of the next higher grade and this course should be enriched with problems bearing upon civic life and clean living. If history repeats itself, most of these pupils will never reach the sixth grade of our schools unless our curriculum and methods of promotions are changed.

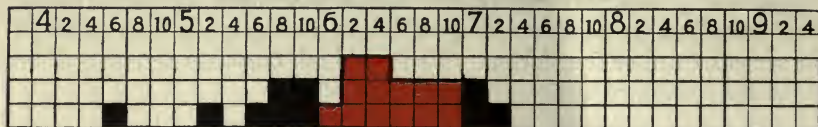
The faster divisions should do broader work and should also move thru the grades faster.

Until some scheme is adopted by the administrative authorities of our schools looking toward a recognition of and an adjustment for such individual differences, we shall continue to give an education, a large part of which is injurious to at least one third of our school children in the Elementary grades.

BINET TEST

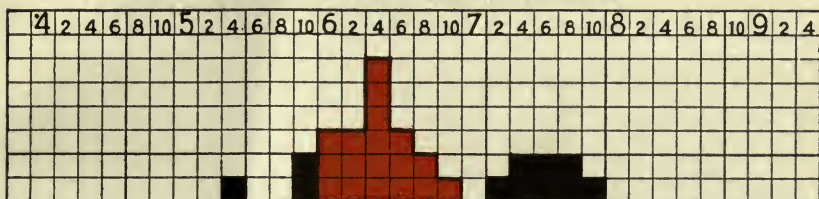
SEVEN RECEIVING CLASSES COMPARED

MENTAL AGE IN YEARS AND MONTHS



BINET TEST

MENTAL AGE IN YEARS AND MONTHS



E—Lockwood School—29 pupils.

Median mental age, 6 yr., 4 mo.

Median I. Q. 101.

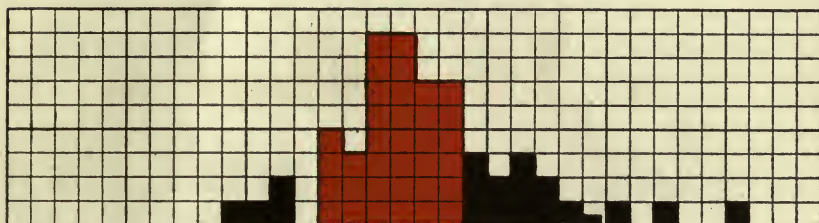
(For discussion see page 216)

Here ability is average—8 pupils should be studied with a view to acceleration.

Below 90—4

90 to 110—20

110 up—5



F—Longfellow School—53 pupils.

Median mental age, 6 yr., 6 mo.

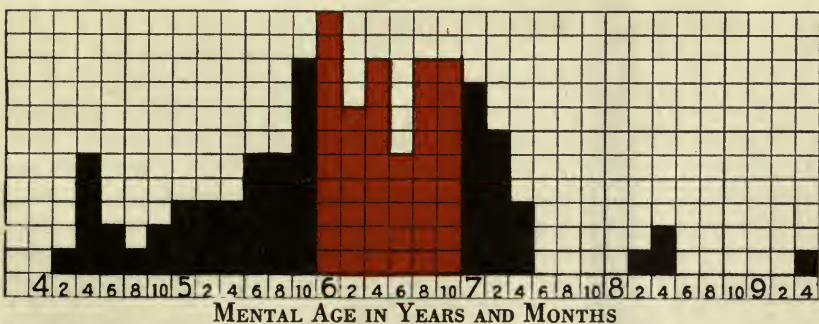
Median I. Q. 97.

Here is good ability—14 pupils should be studied with view to acceleration.

Below 90—9

90 to 109—36

110 up—8



G—Prescott School—110 pupils.

Median mental age, 6 yr., 2 mo.

Median I. Q. 88.

Here segregation is badly needed—35% test below 6 yrs. The median I. Q., 88, shows that most of these children are old, but slow mentally. 64 pupils are more than 7 years old, 24 are more than 8 years old, 1 is 12 yrs. 9 mos. Statistical study shows that a very small per cent of the pupils who enter this school finish the 8th grade. This receiving class numbers 110, the 8th grade graduating class numbers 13. There are more than 1,000 pupils in the eight grades.

Below 90—67

90 to 109—48

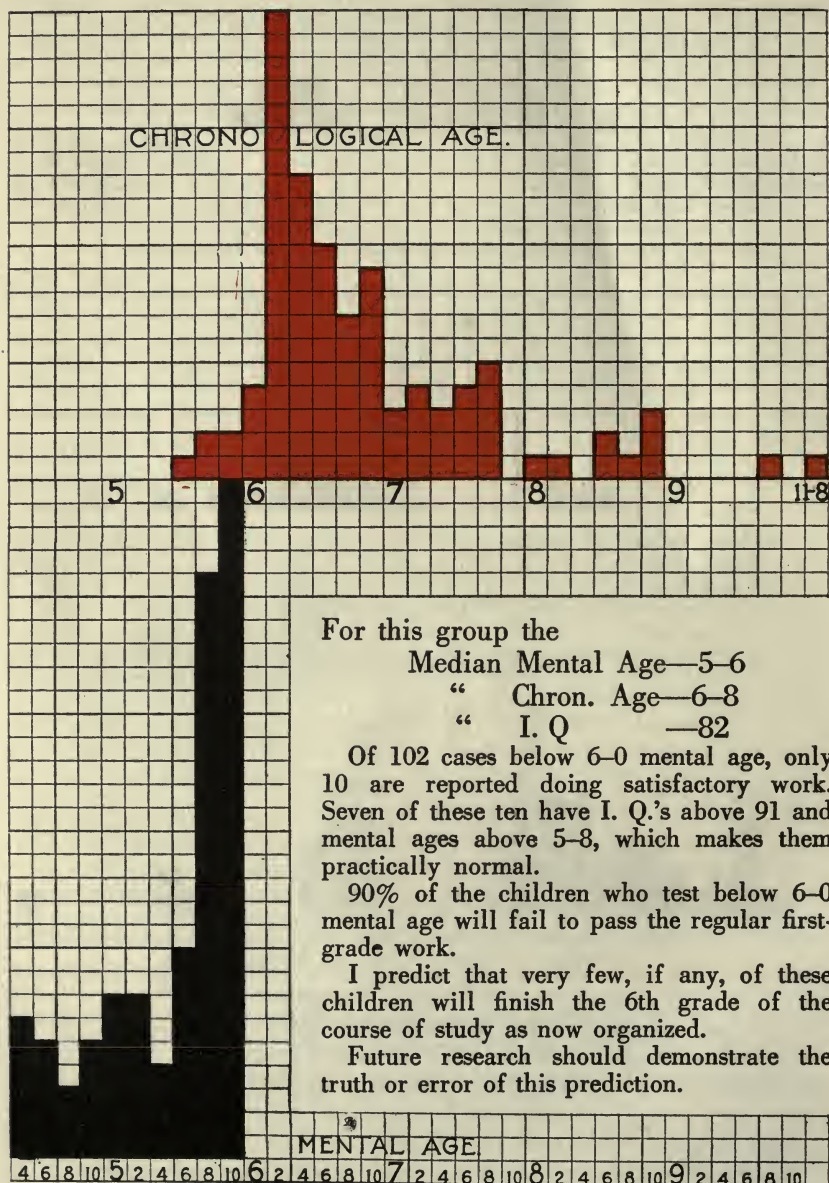
110 up—6

The graphs shown above, A, B, C, D, E, F, G, represent the mental ages of all the children in the low first grade classes of these respective schools. Other graphs could be shown, but these were chosen because they appear to represent the different types of schools of the city.

(For discussion see page 216)

LOW FIRST GRADE

Cases below 6-0 Mental Age—OAKLAND

(Each square ☐ in the above diagram represents one pupil.)

THOSE WHO TEST BELOW SIX YEARS MENTALLY

The graph on page 220 represents the chronological ages, and mental ages of 102 low first grade children who tested below six years mentally.

Of these 102 cases only 10 are reported by the teachers as doing satisfactory work (one month before end of term.) Seven of these ten have I. Q.'s above 91 and mental ages 5 yr. 8 mo. or above, which makes them practically normal for this work. In other words, 90% of the children who tested below 6 years mentally are not doing satisfactory work for their teachers. Some of them, however, will be passed on to the next teacher *because* they have spent several terms in the present grade. How many, if any, of these children will finish the sixth grade of our schools with the course of study as now organized? Future research should answer this question.

All the evidence which we have at present leads us to one conclusion—that *children who test below 6 years mentally are not ready to attempt the regular first grade work with a regular class under standard conditions.* Such an attempt is almost sure to result in failure. We believe that it is unwise from every point of view to force a child to undertake work which he is not yet mentally prepared to receive. We therefore propose the following plan to assist in the segregation and classification of primary pupils in Oakland:

First: That all kindergarten children, if possible, be given the individual Binet test, and that those who fail to reach a six year mental level shall not be promoted to *regular* first grade work *unless* in the judgment of the kindergarten teacher the child shows possibilities of success. Those who should not be retained in kindergarten work should be put in a special first grade room or a special division of the first grade class where the work attempted shall be a preparation for first grade work, and where the child can be successful in the work he attempts. This will prevent a large part of the 20% or 30% of failure which we now have in the first grade. It is true that such children may require a year and a half or two years to accomplish the first grade work, but we feel that in its effect upon child life there is a vast difference between *failure* and *success at a slower rate of speed.*

Second: That all receiving class children who have not been tested in the kindergarten shall be tested as soon as possible after entering school and segregation be made in the same manner as mentioned above.

The graph on page 222 represents the distribution of mental ages of 144 unselected cases—children found working in the high first grade. From the data gathered, it appears that the mental development that is necessary for satisfactory work in this grade is 6 yr. and 4 months. 29% of these children test below that mark. 20% show by the test a mental development superior to the average found in the low second grade. Can these children do the work, even approximately, for which each is fitted unless there is division of the class into groups according to ability?

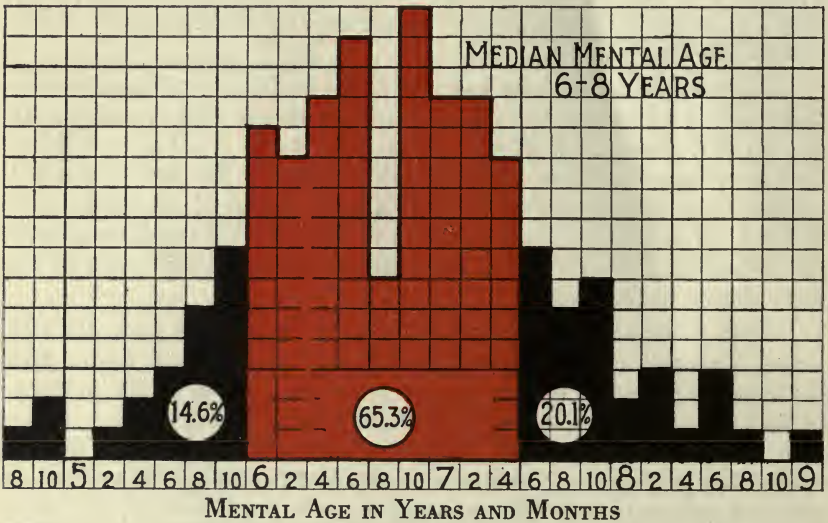
BINET TEST

MENTAL AGE, HIGH FIRST GRADE—OAKLAND

144 cases

Nearly 15% of these children have a mental development less than that which is necessary to do satisfactory first-grade work.

20% have mental development superior to the average found in the low second.



Of this 14.6%, very few, if any, can do first grade work.

Most of this 20.1% could do work as well as the average in the next grade higher.

THE HIGH FIRST GRADE

The graph on page 222 represents the distribution of mental ages of 144 high first-grade children—an unselected group. It shows 14.6% of these children who test below 6 years mental age, most of whom are repeaters and are not adapted to the regular work of the grade.

It should be kept in mind, however, that sometimes a child who tests low has personal habits of industry, perseverance, and attention which overcome other deficiencies and permit him to do better work than many others who have the same mental level as he but have not these desirable personal traits. Vice versa, sometimes a child who tests high does not succeed in his studies as he should because he lacks these desirable personal traits. Such constitute the *exceptions* and not the rule.

20% of these children (see graph) show a mental development superior to the average found in the low second grade. Should these children be considered for immediate advancement to the second grade? Here we are confronted by a serious administrative problem. While “jumping” of grades can often be accomplished successfully by bright children, all educators will probably agree that it is not the most desirable way to make rapid advancement. There are certain requirements in learning to read in the first grade that make it very difficult for these brighter children to be advanced by “jumping” to the next grade, but if the children could be given a little special attention many of them could do the work very much more rapidly than the rest of the members of the class. Similar conditions are found in other classes and other grades. Ideally each child should do the work for which he is fitted. Can these children in the high first grade do the work, even approximately, for which each is fitted unless there is division of the class into groups according to ability?

There are critics of general intelligence tests who say “There is no such thing.” We shall leave that question for philosophers to debate. The fact that concerns us is, that the mental test, given in about thirty minutes, does reveal with remarkable accuracy whether or not a child will be able to do successfully his first grade work. Altho our study has not been so extensive in other grades, results indicate that the mental test likewise reveals the capacity necessary to do successful school work.

WARNING

Lest the reader misunderstand our attitude toward the use of the mental tests, let us give this warning statement. We do not believe that a mental test should be taken as the *sole* basis for grading or promoting or segregating children. What we do believe is that the mental test furnishes very important facts to be included as *one* factor, together with such other factors as health, attitude, behavior, training, environment, and heredity, in the making of the decision of what should be done for each individual child.

SUMMARY AND RECOMMENDATIONS

1. The Reference Library is growing in number of volumes both from our own funds and through the kindness of the County Superintendent of Schools who lends us books from his library. The library is being used extensively. The plan for circulating books to the schools should be extended next year.
2. Bibliographies on many school topics are available in the Department of Research. These bibliographies should be extended in co-operation with teachers and with the committee on professional study.
3. The standard tests in Arithmetic and Handwriting show great differences in the accomplishments of children in the same room. The room medians for the same grade in different schools also show a wide range of variation. More extensive use of standard tests should be encouraged.

4. The interest shown among principals and teachers in standard tests of classroom work and in mental testing, both group and individual, is indicative of open minds and a progressive attitude.
5. The age and progress tabulation shows that the Oakland Elementary grades have an unusual amount of over-ageness (51%) and of retardation (40%). These percentages should soon be reduced or causes explained. At the same time, our schools have a very high percentage of pupils who have been accelerated, which shows that real effort must have been made to promote children *when they were ready*. However this acceleration has been with pupils who are over-age for their grade. This is shown by the fact that 17% of our pupils have made rapid progress while only 7% are under-age. In 22 cities of the State of New York the percent of under-age was 8.4%. Therefore, Oakland has discovered a smaller percentage of its bright children to give them recognition by more rapid advancement than have these other cities. The welfare of our democracy and the need for leadership demand that we pay more attention to the proper training of our children who have superior mental capacity. We should find the child who is capable of doing more and give him more to do.

"Leaving school" between the fourth and the eighth grades by children who are retarded constitutes an enormous problem. It should be made the subject for careful study in the future. The research studies made this year warrant this thesis,—*About 8% of our present enrollment or one-fourth of those who are over-age and slow, will be found to have inherent mental tendencies that make the ordinary course of study either impossible or impractical of attainment. For such children a special curriculum should be prepared looking toward fitting them for useful vocations that do not depend largely upon mental achievement.*

6. Mental tests together with the teachers' reports of classroom work show that approximately 51% of the children of the first grade are adapted to the requirement of that grade;—about 29% cannot do the work outlined for the grade and about 20% could do much more than is required. Other grades show similar conditions but have not as large percentages "above normal" or "below normal".

Standard tests, both psychological and pedagogical—group and individual—should be of great assistance in classification of pupils according to ability and capacity to do the work. They should inspire better teaching and better educational guidance through a more intimate knowledge of the individual child. Teachers and principals should be trained to use and to interpret standard tests of mentality and of achievement as an assistance to better teaching and to better classification of pupils and also as an assistance in the educational and vocational guidance of pupils as they pass through our schools.

*SCIENTIFIC METHODS APPLIED TO VOCATIONAL GUIDANCE

Much has been written and much has been said concerning vocational guidance in the schools of to-day. Vocational guidance bureaus are being established in many cities. I wish to commend the movement for what it has done. At the same time I challenge much of the work that is being done when viewed from a scientific standpoint. With careful analysis, some of it appears to me more worthy of the name "Vocational Guess-work" than "Vocational Guidance".

To understand why I make this charge, let us examine some of the methods pursued by some vocational guidance counselors. Probably the most common field for vocational guidance is in the high school. The practice followed in high schools is often that of requiring each pupil to fill out a certain blank on which he is asked to give information concerning himself and family. Some of the questions involve purely historical data; some, volition or wish; others, judgment based upon the introspection of the individual answering. For example, here are a few of the questions from a blank in use in one of our city schools:

1. Can you see any indication of inherited tendencies in your own life?
2. Has your environment caused any trade or profession to be favored?
3. Do your parents urge any particular occupation?
4. Have you a real desire for studying?
5. What manual work would you rather do than study?
6. Has your school experience made you conscious of any special ability?
7. If your physical condition is poor, name some vocations you could safely enter.
8. What vocation requiring nervous or physical strain could you not enter?
9. Are you a good leader?
10. Are you a kicker—an obstructionist?
11. Are you honest, prompt, conscientious, tactful?

The factors that might influence the child in filling out such a blank are so various that I need only point out the fact that advice and counsel based upon such data would be dangerous, because the data is unreliable. If the same blank were filled out by the child again two months later many of his answers would probably be different.

What else does the vocational counselor have to assist him? Sometimes he has the child's immediate school record of class work. Frequently this

*This paper was presented by Virgil E. Dickson before the meeting of the grade and high school principals and the supervisors of the Schools of Oakland in January, 1918. The topic before the meeting was "Vocational Guidance." It is printed here by request of the Superintendent of Schools.

is the child's own statement of his record. He may have the record of the physical examination; he has the opportunity of personal conference with the child.

To summarize, the advice as finally given often rests upon the family and personal history of the child given by himself; the child's record in school; the child's personality as viewed by the vocational counselor or by some teachers asked to report on the case; the volition of the child or of his parent; and the knowledge which the vocational counselor has of vocations and their requirements. One of the most powerful factors usually considered in selecting the vocation is the wish of the child and this wish may be based upon a chance companionship with a friend, the location of a certain industry in an attractive place, ease of work, social standing involved, salary, etc., without any thought of individual fitness whatever. To follow a child's wish for a vocation is about as scientific as to feed him what he wants when he is convalescing from typhoid fever.

Any judgment based upon data such as that mentioned above is superficial and unscientific. If we are to know the abilities and disabilities of a child, we must go to the sources of such abilities and disabilities, and these often are so deeply hidden in the nature of the child that they are difficult to discover. They are very frequently unknown to the child himself. Dr. G. Stanley Hall says that probably nine-tenths of human behavior has its origin in the subconscious. Much that an individual can do or cannot do is determined by his emotional and temperamental nature.

Two factors that enter most prominently in an individual's chance for success in any vocation are his nature and his nurture. By nature we mean his original endowment; by nurture, his education and environment. Every individual has a potential ability, either positive or negative, for every vocation. The degree of success possible in any vocation, therefore, will be determined, in the main, by the nature of the individual, the nature of his education, and the requirements of the vocation.

What then, should the vocational counselor know:

1. About the child (not from the child)? He should have as much data as possible on the physical, mental and temperamental nature of the child. He should have immediate facts, not opinions, concerning his behavior, heredity, home environment, social environment, and education.
2. About each vocation or type of vocation? He should know something of the number of persons needed, the probable future needs, the opportunities for development, the hazards involved, the salaries paid, etc., but most important of all, and that which has usually been neglected, is what does the vocation demand in physical, mental, and temperamental traits of the individual who is to be successful in it?

Scientific data both with reference to the child and the vocation has been seriously lacking in most cases in the past.

We do not know much but we do know some things with reference to the mental capacity necessary to success in certain occupations.

1. There are many types of work that can be done successfully by feeble-minded individuals—hauling loads, mowing grass, sawing wood, digging, etc.
2. There are other types that do not require much reasoning. These can be done successfully by individuals who are very dull mentally—standardized mechanical piece work, supervised agricultural labor, types of laundry work, street sweeping, etc.
3. Individuals with very ordinary intelligence coupled with personal traits of honesty, truthfulness, promptness, quickness, politeness, etc., may be successful as motormen, conductors, soldiers, cashiers, etc.
4. Keen intelligence with good powers of judgment and reasoning are usually required in business and professional occupations.

In all of these, however, other factors aside from intelligence may play the controlling part as the determinant of success; for example, sympathy, combativeness, loyalty, speed, nervousness.

Individuals belonging in Class 1, the feeble-minded, can be discovered early by means of psychological tests. Their direction into forms of useful work appropriate to their degree of defect is a civic obligation and an industrial economy.

So far as general mental level is concerned, the types of intellect common to the other three classes of vocations can also be discovered early in youth by means of psychological tests.

However, general intelligence level is not an infallible guide. Many an individual whose general ability is low, succeeds in life because of some special ability; many another whose general ability is high, fails because of some special disability. It is unfortunate that our schools are regulated in such a manner that disabilities are easily discovered and individuals held back because of them, while special abilities are seldom given the attention which they deserve.

I know a young man who was prevented from graduation and made to work one whole year longer in H. S. simply because he could not spell, and could not write good compositions. Tests revealed spelling as a disability of this boy, although he had a mechanical ability which brought for him immediately after graduation double the salary which any of his teachers earned.

What place have psychological tests in vocational guidance?

When given in the primary grades psychological tests will reveal those children, about 5% of all, who stand little chance of ever being able to pass 5th grade work successfully. They will reveal another group about, 20 to 25% of all, who, because of mental slowness, or mental instability stand small chance of finishing 8th grade work.

Here are two huge problems for vocational guidance.

These people are going to live in society. They can *do work* but, unfortunately, they usually *make work* for others to do. From these classes come the largest percentage of our crime and pauperism. Their common trail is from Educational misfits to Vocational misfits, to social misfits, to

anti-social feeling, recklessness and crime. The individual who lacks proper adjustment to his vocation becomes dissatisfied and his natural tendency is either to charge against society or to become a charge of society.

Let me give you one example.

William came last week for a work permit. I was asked to test him and to give my recommendation. William was 15 years, 11 months old, his mental age was ten years. Altho he has spent nine years in the schools of Oakland, he has only reached the high 5th grade. He has very poor rote memory, can not name the months of the year, nor can he subtract 4 from 10 or 5 from 24, yet for the past four years this boy has been struggling with fractions. He can do work with his hands with concrete material very satisfactorily. He has good language ability, is kind, is strong physically. School has been a burden to him but now he has reached the compulsory age limit (16) and *freedom*.

The family history makes William's case only more pathetic. Father, American, uncontrolled temper—roving disposition—alcoholic—unsteady in labor—with strain of both feeble mindedness and insanity in his immediate ancestry. He deserted the mother and six children four years ago and has not been heard of since.

Mother—slow, earnest, but emotional, South European. Says that the boy has been good and kind and persistent in work when pleased, but is easily angered and is then “impossible.” William is large, well built, good looking and talks well, has good manners. He can get a job easily, but has never been able to keep one but a few days. The mother reported one employer as saying that he didn't want a boy who had to be told every hour what to do. William is getting restless, more irritable at home—stays away from home more at nights, is running with bad company and the mother is afraid to attempt to do anything with him for fear of his violent temper.

I ask you what is there in store for William now *in Oakland*? Five or seven years ago a psychological test would probably have revealed the boy's abilities and disabilities as well as it does now. Then he liked to dig and work on the farm and in the garden. Educational guidance and vocational guidance at that time would have stood some chance of making him a self-supporting and law abiding citizen on the farm. He now constitutes a social danger with serious prospects of becoming an early charge on the state.

There are dozens of cases in Oakland similar to this one only differing in degree. It seems to me this is one of the fields for vocational guidance. But there are the other problems with those who are bright and capable mentally, and those who are superior. They cause little trouble in the grades.

When the 7th grade is reached there are the elective courses of the Junior High School. In the Vocational School—are electives. Greater electives are offered in the Senior High School. Shall it be the Commercial, English, Scientific or Classical course? Then comes the college or

University with all of its electives. How can the individual select wisely *his* path in this labyrinth of ways. *Usually he can't.* Did you and I know when we trod that labyrinth what way or ways our natures best fitted us for? I answer for most of us, NO. We probably don't know yet. What time might have been saved and what pitfalls and blunders avoided had science revealed to us earlier; even a few of the abilities or disabilities in our natures which were unknown or unrealized by us.

All along this path of life the vocational counselor can be a boon companion indeed, provided he knows the individual and also knows the roads, (vocations) and where they lead. The machinery is already available whereby he can know the individual quite thoroughly, but this has been little used in the past. As a child passes thru the grades the school has many opportunities to observe his reactions to all sorts of tests and conditions of life.

Now comes the key note of my proposal. Let us begin a study of the child when he enters the first grade and continue such study as long as he is with us. Let us keep our data in *available* and *usable* form.

Psychological tests can be given. Evidence of abilities and disabilities can be carefully noted and checked up by the teacher. Teachers, guided by the physician and the psychologist, can easily be trained to note certain types of behavior which are of tremendous importance both for immediate educational guidance and for future vocational guidance. I wonder if some time spent in studying and marking habits, personal traits, and behavior in the large sense of that term would not be as productive of educational results as is some of the time spent in making present marks of 1's, 2's and 3's for accomplishment in subject matter?

The health department makes a physical examination of each child annually or bi-annually, and records the results on blanks that are filed away and soon lost to use. I am not criticizing anyone or any department. Most of us are guilty of gathering much useful data only to make little or no use of it. The teacher, the attendance officer, the doctor, or nurse frequently visits a home where valuable information concerning home environment and heredity are noted soon to be dropped out of memory and lost so far as helping the child is concerned.

Blanks could be devised easily whereby all such data could be kept in brief and available form. Such a record would be of untold importance to the trained vocational counselor when he is called upon to give guidance.

Time will permit me merely to mention some of the scientific methods now being employed in selecting men and women for vocations.

Industries where many people are employed are using psychiatric and psychological tests to determine the fitness of the nervous system and the mind of each applicant. They find it pays. The U. S. army and navy are employing physicians and psychologists in order to eliminate those men suffering from nervous and mental diseases, and likewise to grade those who remain, in their ability to take training for the more responsible positions.

SUMMARY

Scientific methods as applied to vocational guidance are based upon the principle of individual differences. Investigation and cataloging of these differences must begin early if time is to be saved and anti-social attitude prevented. Guidance must take into account special abilities and special disabilities. The individual who has a disability should not thereby be prevented training along the line of his ability, e. g., failure in spelling prevent his progress in other subjects. There has been a strong tendency in education to recognize the bad and hold back, rather than select the good and move ahead. Vocational Guidance should help to remedy this tendency.

Many people of low grade mentality still have special abilities of such social significance that there is strong possibility of successful adjustment to life. The greatest good to the individual and to society will come from discovering the task for which each is best fitted and giving educational and vocational direction accordingly.

Every individual, be he subnormal, normal, or superior, needs vocational guidance. In our efforts to offer scope for the individual to adapt himself to capacity we have formed ungraded and special classes, Junior and Senior high school, advancement by subject rather than by grade, courses in Household arts, commercial, industrial and agricultural subjects, but these are not enough. Diagnosis of capacity and fitness is needed. Before we can fit the proper peg into the proper hole we must know the nature of both the peg and the hole.

1. Medico-Psychological tests constitute one source of data that must be recognized if vocational guidance reaches the goal of success which it deserves.

2. The teacher, the nurse, the attendance officer and others may add much data of importance if trained to note types of reactions and behavior that are significant from the time the child enters school.

3. All data must be kept as a cumulative record to be available when needed.

4. The vocational counselor must be willing to harmonize the data concerning the individual and the vocation which scientific research has made possible if his vocation is to be worthy of the title "*Guidance.*"

We are fighting to make the world safe for democracy. We must fight in a different way to make education and vocation recognize individual differences that will make our own people safe for democracy.

Table No. 22
SUMMARY OF ALL SCHOOL DEPARTMENT POSITIONS—JUNE 1918
 (Exclusive of Unemployed Substitute Teachers and Laborers Not Regularly Employed)
 M—Men. W—Women.

Items Numbered to Correspond with Items in Fiscal Schedule to Which Salaries Are Charged.	Number of Persons Holding Positions in												Total Employees	Grand Total
	Day Schools				Evening School				Both Elementary and Secondary Schools					
	Elementary		Secondary		Elementary		Secondary							
	M	W	M	W	M	W	M	W						
	10. Total Officers of General Control.....	2	1	16	9	18			10	28
11. Supervisors	1	6	.....	1	.....	.....	1	.....	8	3	10	10	20
Clerks to Supervisors.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	1
13. Principals (Supervisors only)	26	6	4	1	1	.....	6	.....	2	.....	39	7	46
Clerks to Principals.....	.....	1	.....	4	.....	.....	.....	4	.....	2	.....	11	11
15. Teachers	35	659	74	131	7	20	77	68	.....	.....	193	878	1071
* (Teachers, June, 1917.....)	40	604	74	115	16	8	40	25	.....	.....	170	752	922)
18. Other Officers of Instruction.....	.....	.....	.....	5	.....	.....	.....	5	.....	.....	.....	10	10
20. Janitors, Engineers, Laboratory Assts., etc.	94	11	30	4	.....	.....	.....	.....	7	.....	131	15	146
33. School Librarians.....	.....	.....	.....	6	.....	.....	.....	3	.....	.....	.....	9	9
36. Doctors and Nurses.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	10
Playground Supervisors.....	.....	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	25
42. Director of Reference and Research.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	1	2
Total Positions	158	719	108	152	8	20	84	80	34	16	392	987	1379	
* (Total Positions, June, 1917.....)	172	663	102	127	16	8	43	26	32	23	365	847	1212)	

played part time in each of two positions):														
a. Supervisors	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
b. Teachers	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
c. Director of Reference and Research	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total No. Employed by Board for part time only	1	2	4	4	3	13	44	40	1	1	1	54	60	114
*(Number in June, 1917)	1	4	3	4	7	5	33	21	2	2	.....	46	34	80
2. Of the above the following persons were counted twice:														
a. Sec'y to Supt., also Eve. School Vice-Prin.	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	1
b. Attendance Officer, also Supervisor	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
c. Supervisor, also H. S. Teacher	.....	.....	.....	.....	.....	.....	.....	.....	3	1	3	1	1	4
d. Dir. Evening Lectures, also Elem. Principal	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	1
e. Day School Prin., also Eve. School Prin..	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
f. Evening School Prin., also School Teacher	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	3	.....	.....	3
g. Evening School Vice-Prin., also Supervisor	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	1
h. Day School Prin., also Eve. School Teacher	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
i. Day, also Evening School Librarian.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	3	3
j. Day, also Evening School Pianist.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	2	2
k. Evening, also Day School Teacher.....	.....	.....	.....	.....	5	12	60	44	.....	.....	65	56	121	.....
Total Number of Persons Counted Twice..	4	.....	5	5	5	12	64	44	5	1	78	62	140	.....
*(Number in June, 1917)	3	.....	.....	.....	4	6	35	10	2	1	44	17	61	.....
3. School Officers not Paid by the Board of Education:														
a. Members of Board of Education (Paid by City)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	1	7	.....
b. Principal of University School, Secretary, and 4 Teachers (Paid by State University)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	4	6	.....
Total School Officers included in this table but not paid by the Board of Education.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	5	13	.....

* This line is quoted from the report of June, 1917, for purpose of comparison.

Table No. 23

OAKLAND'S GROWTH—AND ITS SCHOOLS BY DECADES

Fiscal Year Ending July	Population by U. S. Census	City Assessed Valuation	Total School Enrollment All Schools	Average Daily Attendance All Schools	Total Class Teachers
1853	1001	No record	No record	16	1.
1860	1549	No record	130	58	2
1870	10500	No record	1410	735	19
1880	34555	\$ 28,348,778	6125	4983	127
1890	48682	35,843,979	9565	6372	155
1900	66960	43,275,381	11976	8512	230
1910 ²	150174	107,793,550	17621	12919	353
1917	206402	144,271,100	40946	25797	847.3
1918	246519 ¹	148,571,000	48214	27304	933.4

¹ Estimated.² For the year 1910, only the Total Population includes the annexation of 1909.

Table No. 24

ENROLLMENT AND NUMBER OF SCHOOL DAYS

				9.4%	103.7%	17.7%	
Year	Kindergartens	Elementary Schools Day Evening	Secondary Schools Day Evening	Total Enroll- ment all Schools	Days of School		
1910-11	209	18297	977	2480	None	21963	191
1911-12	203	20274	1260	2690	“	24427	191
1912-13	458	21247	1185	3140	“	26030	193½
1913-14	871	22912	1884	3354	“	29021	184
1914-15	1934	24351	2367	4045	“	32697	186½
1915-16	2446	24811	1390	4727	1299	34673	188
1916-17	2489	26237	2002	5298	4920	40946	189
1917-18	3199	27598	1594	5798	10025	48214	189
Increase Over Last Year	28.5%	5.2%	20.3% *	9.4%	103.7%	17.7%	

* Decrease.

It is noteworthy that the most marked increase is in the Kindergarten and in the Evening Secondary Schools. The Evening Elementary Schools show a decrease.

Table No. 25
AVERAGE DAILY ATTENDANCE

Year	Kindergartens	Elementary Schools Day	Evening	Secondary Schools Day	Evening	Average Daily Attendance All Schools
1910-11	83	14834	122	2170	None	17209
1911-12	92	15621	130	2363	"	18206
1912-13	203	16425	124	2299	"	19051
1913-14	360	17874	185	2597	"	21016
1914-15	718	18998	205	3089	"	23010
1915-16	1136	19595	113	3562	119	24525
1916-17	1139	20208	152	3894	404	25797
1917-18	1440	20804	122	4221	717	27304
Increase Over Last Year	26.4%	2.9%	19.7% *	8.4%	77.4%	5.8%

* Decrease.

Table No. 26
NUMBER OF CLASS TEACHERS EMPLOYED

Year	Kindergartens	Elementary Schools Day	Evening	Secondary Schools Day	Evening	Total No. of Class Teachers All Schools
1910-11	3	384	15	87	None	489
1911-12	3	397	15	93	"	508
1912-13	7	430	15	100	"	552
1913-14	12	478	19	117	"	626
1914-15	20	519	21	146	"	706
1915-16	30	549	11.4	170.7	9.4	770.5
1916-17	30	580	16	189	32.3	847.3
1917-18	40	610	13.2	210	60.2	933.4
Increase Over Last Year	33.3%	5.2%	17.5% *	11.1%	86.3%	10.1%

†Owing to varying methods of counting "class teachers" this table is only approximately correct. During the last four years, the numbers represent the average of the number employed during each of the ten months of the year. Manual training, instrumental music, and other non-class teachers are not counted in the Elementary Schools. In the High Schools, all teachers, including librarians and pianists, are counted. Supervising principals, clerks, and vice-principals who do not teach are not included. Domestic Science teachers were non-class teachers prior to 1915-16. In every case teachers are counted only for the portion of time which they give.

*Decrease.

Table No. 27
NUMBER OF PUPILS PER CLASS TEACHER
 (Based on Average Daily Attendance)

Year	Kindergartens	Elementary Schools		Secondary Schools		Average for All Schools
		Day	Evening	Day	Evening	
1910-11	27.6	38.6	16.3	24.9	None	35.4 *
1911-12	30.6	39.3	17.4	25.4	"	36.1
1912-13	29.0	38.1	16.5	23.0	"	34.7
1913-14	30.0	37.4	19.4	22.2	"	33.8
1914-15	35.2	36.6	19.2	21.1	"	32.8
1915-16	37.8	35.6	19.8	20.8	25.3	32.1
1916-17	37.9	34.8	19.0	20.6	25.0	31.1
1917-18	36.0	34.1	18.4	20.1	21.4	29.2

* The average (last column) where Kindergartens, Elementary Schools and High Schools are thrown together has very little, if any, significance.

Recent years show a slight tendency to decrease the number of pupils per class teacher.

Table No. 28
ASSESSED VALUATION SUBJECT TO LOCAL TAXATION

Year	Valuation Shown by City Assessor	Valuation Shown by County Assessor	Estimated Population	True Wealth Per Capita (City Val.)
1910-11	\$127,548,050	\$117,344,224	159,601	\$1,598.32
1911-12	116,881,725	109,124,037	167,401	1,396.42
1912-13	129,467,400	127,156,828	175,201	1,477.92
1913-14	137,727,750	133,823,778	183,002	1,505.20
1914-15	141,691,600	135,592,527	190,802	1,485.22
1915-16	142,914,775	138,754,220	198,602	1,439.20
1916-17	144,839,340	138,393,205	206,402	1,403.46
1917-18	148,571,000	140,154,990	246,519	1,205.35

Increase

Over 1916-17	2.6%	1.3%	19.4%
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Table No. 29
PROMOTION RECORDS—TERM ENDING MAY 31, 1918

	Number	%	Not Promoted		Promoted		No. of Times Promoted			Promoted After Attendance of			
			No.	%	No.	%	1 Time	2 Times	3 Times	1 Mo.	2 Mo.	3 Mo.	4 Mo.
Leaving.....	2,068	8.5	1,855	89.7	213	10.3	.....	.....	.....	.....	.....	.....	.....
Attending 5 mos.....	20,388	84.0	1,488	7.3	18,900	92.7	17,740 (87.0%)	1141 (5.6%)	19 (0.1%)	.....	.....	.....	.....
Attending Less than 5 mo.....	1,815	7.5	416	22.9	1,399	77.1	.....	.....	.....	119 (6.5%)	245 (13.6%)	306 (16.8%)	729 (40.2%)
Total (on roll).....	24,271		3,759	15.5	20,512	84.5							

PROMOTION RECORDS—TERM ENDING DEC. 14, 1917

	Number	%	Not Promoted		Promoted		No. of Times Promoted			Promoted After Attendance of			
			No.	%	No.	%	1 Time	2 Times	3 Times	1 Mo.	2 Mo.	3 Mo.	4 Mo.
Leaving.....	2,021	8.4	1,847	91.4	174	8.6	.....	.....	.....	.....	.....	.....	.....
Attending 5 mo.....	20,445	85.1	1,530	7.5	18,915	92.5	18,114 (88.6%)	781 (3.8%)	20 (0.1%)	.....	.....	.....	.....
Attending Less than 5 mo.....	1,536	6.4	389	25.3	1,147	74.7	.....	.....	.....	161 (10.4%)	213 (13.9%)	309 (20.1%)	464 (30.2%)
	24,002		3,766	15.7	20,326	84.3							

Table No. 30
RECEIPTS OF STATE, COUNTY, AND SCHOOL DISTRICT FUNDS
 (As shown by Official Reports of the County Superintendent of Schools.)

YEAR	From State Apportionment	From County Apportionment	From District Taxes	Miscellaneous	Total Receipts
For Elementary Schools and Kindergartens					
1910-11.....	\$235,438.67	\$346,631.15	\$276,799.46	\$2,861.99	\$861,731.27
1911-12.....	322,561.47	322,664.45	143,475.00	328.90	789,029.82
1912-13.....	266,535.63	372,315.93	162,890.90	462.94	802,205.40
1913-14.....	288,053.45	366,418.26	340,311.58	19,072.60	1,013,855.89
1914-15.....	304,151.01	370,472.04	656,372.06	12,215.74	1,343,210.85
1915-16.....	314,052.50	375,626.05	462,015.90	1,451.78	1,153,146.23
1916-17.....	314,052.50	378,762.77	470,179.44	2,444.92	1,165,439.63
1917-18.....	325,606.95	380,875.73	544,808.28	15,079.19	1,266,370.15
Total.....	\$2,370,452.18	\$2,913,766.38	\$3,056,852.62	\$53,918.06	\$8,394,989.24
For Secondary Schools					
1910-11.....	17,501.48	.....	226,491.56	380.20	244,373.24
1911-12.....	29,902.86	.....	168,698.99	403.75	199,005.60
1912-13.....	26,134.25	1,378.22	190,540.71	1,562.61	219,615.79
1913-14.....	25,603.36	6,597.83	197,861.08	343.75	230,406.02
1914-15.....	28,776.39	9,876.52	407,002.24	5,568.94	451,224.09
1915-16.....	36,188.07	185,656.36	173,496.49	766.10	396,107.02
1916-17.....	43,890.73	229,724.37	262,732.25	168.90	536,516.25
1917-18.....	52,134.08	257,100.18	279,388.87	483.09	589,106.22
Total.....	\$260,131.22	\$690,333.48	\$1,906,212.19	\$9,677.34	\$2,866,354.23
Total Receipts in 8 years..	\$2,630,583.40	\$3,604,099.86	\$4,963,064.81	\$63,595.40	\$11,261,343.47
Percent of Total	23.3%	32.0%	44.1%	00.6%	100.00%

Table No. 31
SUMMARY OF ALL EXPENDITURES FOR SCHOOLS

(Includes Expenditures from All Sources)

	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	Total in Eight Yrs.
Current Expenses									
General Control.....	\$ 22,964.00	\$ 22,866.00	\$ 26,715.69	\$ 34,451.55	\$ 41,465.80	\$ 36,119.68	\$ 42,181.82	\$ 55,223.17	\$ 281,987.71
Instruction	714,013.00	750,525.00	809,518.62	906,077.57	1,099,452.57	1,162,905.56	1,229,249.26	1,442,099.29	8,113,843.97
Operation of Plant.....	72,609.00	71,909.00	70,778.02	84,045.30	105,235.23	113,556.63	130,830.43	142,505.54	791,469.15
Maintenance of Plant.....	39,366.00	28,725.00	70,724.24	75,533.89	132,611.51	59,863.42	92,593.62	37,509.15	536,926.83
Auxiliary Agencies	16,497.00	21,095.00	22,555.66	24,754.26	41,215.40	37,058.01	34,420.49	46,376.35	243,972.17
Miscellaneous Expenses..	1,483.00	823.00	2,368.10	2,785.70	8,608.64	7,419.04	6,053.15	24,255.72	53,793.65
Sub-Total (Expenses)	\$ 866,932.00	\$ 895,943.00	\$1,002,660.33	\$1,127,648.27	\$1,428,589.15	\$1,416,925.34	\$1,535,328.77	\$1,747,969.22	\$10,021,996.08
Permanent Improve- ments from Current Funds, Taxes	\$ 221,789.03	\$ 129,354.40	\$ 60,069.39	\$ 111,735.98	\$ 364,519.04	\$ 133,929.67	\$ 266,789.50	\$ 234,660.00	\$ 1,522,846.11
Other Payments, mostly for Interest and Re- demption of Bonds.....	131,364.50	209,873.56	202,284.62	187,720.47	289,241.42	304,593.79	264,515.79	.....	1,589,594.06
Total Exclusive of Pro- ceeds of Bond Sales....	\$1,220,085.53	\$1,235,170.96	\$1,265,014.34	\$1,427,103.82	\$2,082,349.61	\$1,855,448.71	\$2,066,634.08	\$1,982,629.22	\$13,134,436.25
Spent from Bonded Con- struction Funds.....	\$ 2,140.32	\$ 637,587.24	\$ 693,339.01	\$ 857,378.80	\$ 434,420.08	\$ 103,157.27	\$ 37,619.47	.....	\$ 2,765,642.19
Grand Total, including Bonds	\$1,222,225.85	\$1,872,758.20	\$1,958,353.35	\$2,284,482.62	\$2,516,769.69	\$1,958,605.98	\$2,104,253.53	\$1,982,629.22	\$15,900,078.44

Table No. 32
SUMMARY OF COST PER PUPIL

Based on Average Daily Attendance and Current Expenses.
(See Tables 4 and 11)

KIND OF SCHOOL	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	Increase in Eight Years
Kindergartens	\$40.48	\$36.84	\$36.02	\$47.52	\$31.24	\$33.04	\$46.98	\$41.13	1.6%
Day Elementary	45.87	43.99	47.14	47.82	56.26	51.78	51.66	54.32	18.4%
Evening Elementary.....	43.32	44.62	46.70	37.95	37.01	29.97	18.84	88.48	104.2%
Day Secondary	79.44	81.93	91.07	93.03	104.21	98.87	106.93	115.52	45.4%
Evening Secondary.....	.....	.....	.....	.....	.....	23.90	19.27	87.62	.....
All Schools	50.02	48.85	52.28	53.18	61.53	57.23	58.26	64.02	27.9%

NOTE—Figures for 1916-17 are based on budget allowances for the year. They are approximately correct. Fluctuations in evening school per capita costs are due largely to varying methods of segregating expenses between day and evening schools.

Table No. 33

ANALYSIS OF IMPORTANT EXPENSE ITEMS

The following are a few selected items of expenses which generally prove most interesting. For a complete summary, see Table 11. For completely itemized reports, see reports of U. S. Commissioner of Education.

Items Numbered As in Fiscal Schedule of U. S. Commissioner of Education		1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	Increase in Eight Years
7-8	Superintendent's Office.....	\$ 9,660.00	\$ 8,030.00	\$ 8,199.56	\$ 11,544.12	\$ 14,162.01	\$ 15,659.43	\$ 16,857.82	\$ 28,200.70	191.9%
1-6, 9	Business Offices.....	13,304.00	14,836.00	18,516.13	22,907.43	27,303.79	20,460.25	25,324.00	27,022.47	103.1%
11-12	Supervisors of Instruction.....	32,490.00	27,960.00	21,828.35	28,150.45	33,162.96	29,109.13	25,590.89	28,777.11	*11.4%
13-14	Supervising Principals & Clerks	70,560.00	75,360.00	73,329.88	77,925.39	88,217.55	91,103.24	106,249.83	112,403.99	59.3%
15	Teachers' Salaries—									
	Kindergarten.....	\$ 3,360.00	\$ 3,390.00	\$ 7,313.75	\$ 17,108.15	\$ 22,433.25	\$ 32,939.65	\$ 32,773.75	\$ 42,062.95	1151.8%
	Day Elementary.....	457,278.00	474,126.00	507,099.52	565,297.26	671,124.10	685,599.99	705,382.70	807,003.26	76.0%
	Evening Elementary.....	9,038.00	10,194.00	9,583.65	11,521.70	12,416.85	5,918.90	5,728.94	8,632.50	*4.4%
	Day Secondary.....	118,019.00	135,501.00	151,509.35	171,661.20	218,173.50	261,305.55	279,176.37	325,813.75	176.0%
	Evening Secondary.....	.....	.....	.....	.....	.....	5,689.50	15,574.10	60,996.55	.....
	Total Teachers' Salaries.....	\$587,695.00	\$625,211.00	\$677,506.27	\$767,490.81	\$926,147.70	\$991,543.59	\$1,038,635.86	\$1,244,509.01	111.7%
20	Wages of Janitors.....	\$ 48,170.00	\$ 48,480.00	\$ 47,619.95	\$ 54,995.66	\$ 68,955.45	\$ 73,471.59	\$ 74,388.45	\$ 76,190.04	58.1%
21-25	Fuel, Power, Water, etc.....	24,239.00	23,229.00	22,958.07	28,849.64	36,159.33	40,505.23	57,111.98	66,315.50	173.5%
31	Repairs, Replacements, etc.....	39,566.00	28,925.00	70,924.24	75,733.89	132,661.91	61,075.17	92,608.62	52,790.23	33.4%
32-34	Libraries, Books, etc.....	7,672.00	8,546.00	9,142.21	12,049.82	15,038.16	12,252.89	11,668.34	13,639.80	77.7%
35-36	(a) Doctors and Nurses.....	8,603.00	12,458.00	13,014.35	12,379.26	15,798.30	15,573.43	12,379.45	12,494.65	45.2%
35-36	(b) School Playgrounds.....	.....	.....	.....	.....	10,184.31	9,039.11	10,089.00	19,096.79	.....

* Decrease.

NOTE—Some of the extreme fluctuations, and especially the decreases shown, are due largely to methods of segregating expenses in the accounting department. Figures for 1916-17 are based on budget allowances for the year.

Table No. 34
SUMMARY OF OUTSTANDING INDEBTEDNESS
 (For Details, See Financial Survey in Office of Superintendent of Schools)

PURPOSE OF ISSUE	Total Amount Sold	Amount payable Yearly	Taxes for 1917-18 original City (On \$100 Valuation)	Amount Outstanding June 30, 1918.
BONDS FOR SCHOOLS—				
School District Bonds.....	\$1,577,000.00	\$ 48,000.00	\$0.04	\$1,006,000.00
Municipal School Bonds.....	2,703,900.00	79,821.26	.1316	2,135,475.53
Total for Schools.....	4,280,900.00	127,821.26	.1716	3,141,475.53
BONDS FOR OTHER PURPOSES—				
Sanitary District Bonds.....	.....	3,050.00		28,900.00
Municipal Bonds	7,344,500.00	175,888.74*	.3294	5,686,754.47
Total for Other Purposes.....	.....	178,938.74	.3294	5,715,654.47
TOTAL BONDS—				
School District and Sanitary Districts.....	.....	51,050.00	.04	1,034,900.00
Municipal Bonds	10,048,400.00	255,710.00	.46	7,822,230.00
Grand Total .....	.....	\$306,760.00	\$0.50	\$8,857,130.00

* Average. The amount payable on some of these issues varies from year to year.

NOTE.—Of the \$4,280,900 worth of bonds originally sold for school purposes, \$3,417,900 was for elementary schools and \$863,000 for secondary schools. The bonds issued by the municipality for schools were payable by the whole city, but of the school district bonds sold, \$1,240,000 was payable by the city as it existed prior to 1909, and the remaining \$337,000 only by the districts annexed in 1909.

Nine issues of school district bonds were sold between 1898 and 1909, running for from 15 to 40 years, and bearing interest at from 4 to 6%. Since 1911, three issues of municipal bonds, running from 30 to 40 years, and bearing interest at $4\frac{1}{2}$ to 5%, have been sold.

Table No. 35
THE COST OF SCHOOL BONDS

	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	Total in Eight Years
PAYMENTS ON PRINCIPAL—									
School district bonds.....	\$51,000.00	\$82,900.00	\$64,340.75	\$36,420.37	\$77,870.38	\$48,500.00	\$48,500.00	\$48,000.00	\$390,000.00
Municipal bonds for schools.....	20,000.00	131,400.00	112,840.75	84,920.37	126,370.38	91,770.37	63,000.00	92,039.95	528,341.82
Total.....	71,000.00	56,730.00	54,715.00	51,900.00	49,575.00	140,270.37	111,500.00	140,039.95	918,341.82
INTEREST PAYMENTS—									
School district bonds.....	57,610.00	21,743.56	34,728.87	50,112.53	113,102.39	47,687.50	45,545.00	42,357.50	406,120.00
Municipal bonds for schools.....	2,500.00	78,473.56	89,443.87	102,012.53	162,677.39	116,635.83	93,886.01	108,187.24	540,896.43
Total.....	60,110.00	209,873.56	202,284.62	186,932.90	289,047.77	164,323.33	139,431.01	150,544.74	947,016.43
Total Payments on Bonds.....	131,110.00	209,873.56	202,284.62	186,932.90	289,047.77	304,593.70	250,931.01	290,584.69	1,865,358.25

NOTE—Figures for 1916-17 are for payments to May 31, 1917, only.

Table No. 36

**Salaries Paid Superintendents of Schools in Twenty-five Cities
of 200,000, and Over.**

1. Detroit.....		\$12,000
2. Cleveland.....		\$12,000
3. Chicago.....		\$10,000
4. New York.....		\$10,000
5. Cincinnati.....		\$10,000
6. Jersey City.....		\$ 9,000
7. Philadelphia.....		\$ 9,000
8. Pittsburg.....		\$ 9,000
9. Los Angeles.....		\$ 8,000
10. St. Louis.....		\$ 8,000
11. Seattle.....		\$ 7,500
12. Newark.....		\$ 7,500
13. OAKLAND.....		\$ 7,500
14. Milwaukee.....	Median	\$ 7,500
15. Denver.....		\$ 7,000
16. Buffalo.....		\$ 7,000
17. Rochester.....		\$ 6,500
18. Washington, D. C....		\$ 6,000
19. Minneapolis.....		\$ 6,000
20. New Orleans.....		\$ 5,400
21. Louisville.....		\$ 5,000
22. Baltimore.....		\$ 5,000
23. St. Paul.....		\$ 5,000
24. Providence.....		\$ 5,000
25. San Francisco.....		\$ 4,000

Average Salary, \$7,556

Table No. 37

Salaries Paid Assistant Superintendents of Schools in Twenty-five Cities of 200,000 and Over.

1. New York.....		\$5,750
2. Chicago.....		\$5,500
3. Detroit.....		\$5,100
4. St. Louis.....		\$5,000
5. Jersey City.....		\$5,000
6. Cleveland.....		\$4,640
7. Newark.....		\$4,500
8. Philadelphia.....		\$4,050
9. Minneapolis.....		\$4,000
10. Rochester.....		\$4,000
11. Pittsburg.....		\$4,000
12. Seattle.....		\$4,000
13. OAKLAND.....		\$4,000
14. Milwaukee.....	Median	\$3,960
15. Denver.....		\$3,850
16. Cincinnati.....		\$3,750
17. Los Angeles.....		\$3,550
18. Washington, D. C.....		\$3,250
19. New Orleans.....		\$3,150
20. San Francisco.....		\$3,000
21. Buffalo.....		\$3,000
22. Baltimore.....		\$2,950
23. Providence.....		\$2,660
24. St. Paul.....		\$2,400
25. Louisville.....		\$2,000

Average Salary, \$3,880.88

Table No. 38

Salaries Paid Business Managers of Schools in Fourteen Cities
Cities of 200,000 and Over.

1. Chicago.....		\$10,000
2. Milwaukee.....		\$ 6,000
3. Detroit.....		\$ 5,000
4. Cleveland.....		\$ 5,000
5. Pittsburg.....		\$ 5,000
6. Cincinnati.....		\$ 4,500
7. Minneapolis.....		\$ 4,250
8. Los Angeles.....	Median	\$ 4,200
9. Louisville.....		\$ 4,000
10. Seattle.....		\$ 3,600
11. OAKLAND.....		\$ 3,300
12. Buffalo.....		\$ 3,000
13. Baltimore.....		\$ 2,400
14. St. Paul.....		\$ 2,000

Average Salary, \$4,446.42

Table No. 39

Showing, for the Thirty United States Cities of 200,000 or More, the Ratio to the Total Budget (Exclusive of Outlay (1) of the Expenses of the Board of Education and Business Offices; (2) of the Expenses of the Superintendent's Office 1915-16.*

1	2
BOARD OF EDUCATION AND BUSINESS OFFICES	SUPERINTENDENT'S OFFICE
% of Budget	% of Budget
1. Louisville 3.80	1. Pittsburg 4.24
2. St. Louis 3.64	2. Jersey City..... 2.13
3. Pittsburg 3.43	3. Buffalo 2.07
4. Los Angeles..... 3.37	4. Boston 2.01
5. Portland 3.27	5. Newark 1.98
6. Cleveland 3.06	6. St. Louis 1.85
7. Kansas City..... 3.06	7. Philadelphia 1.76
8. Philadelphia 2.99	8. Minneapolis 1.67
9. Boston 2.89	9. Kansas City 1.65
10. Indianapolis 2.84	10. Portland 1.63
11. Chicago 2.46	11. Baltimore 1.60
12. Seattle 2.37	12. New York 1.60
13. San Francisco..... 2.18	13. Detroit 1.42
14. Newark, N. J..... 2.12	14. New Orleans..... 1.41
15. Minneapolis.....MEDIAN 1.84	15. Milwaukee.....MEDIAN 1.39
16. Rochester 1.82	16. Cleveland 1.36
17. Denver 1.67	17. Chicago 1.33
18. Detroit 1.54	18. Indianapolis 1.32
19. Cincinnati 1.47	19. Seattle 1.32
20. Columbus 1.37	20. San Francisco 1.30
21. OAKLAND 1.25	21. St. Paul 1.22
22. New Orleans 1.22	22. Providence 1.19
23. New York City..... 1.16	23. Cincinnati 1.18
24. Milwaukee 1.10	24. Louisville 1.17
25. Washington, D. C..... .97	25. OAKLAND 1.10
26. Baltimore ..... .87	26. Rochester 1.03
27. St. Paul..... .79	27. Columbus 1.00
28. Providence ..... .77	28. Denver ..... .95
29. Buffalo ..... .61	29. Los Angeles ..... .90
30. Jersey City..... .59	30. Washington, D. C..... .83

* Figures based on Report of the United States Commissioner of Education, 1917.

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